

Soybean Digest

MONTHLY PUBLICATION

AMERICAN ASSOCIATION



General Mills Chemical Division Opens Rossford, Ohio Plant.

JUNE + 1952

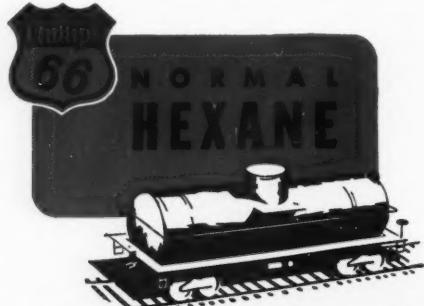
VOLUME 12 + NUMBER 6



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THE Soybean Digest

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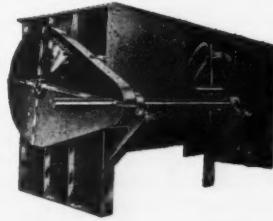
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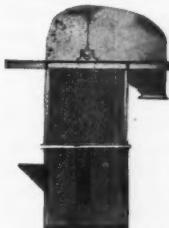
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EDITOR'S DESK

OUTDATED AS THE MODEL T One very important consideration has been almost entirely overlooked as OPS officials and other governmental agencies have dabbled their fingers in the pie of price controls on soybean products. It is probably so new that it has not yet received general recognition.

We can conceive of no other feed or feed ingredient on which knowledge of usage and inherent properties has advanced so rapidly as on soybean oil meal during the last two years. The increased knowledge and use of what was first called APF, now known as vitamin B-12, first changed the picture. Then the antibiotics came into the limelight, again greatly changing the picture. Newer antibiotics, and improved strains, have further enhanced the feeding value of feeds built on the base of soybean oil meal.

Historical price relationships of soybean oil meal to corn and cottonseed no longer apply. They are as outdated as the Model T. Those historical price relationships were established before the days of B-12, when many feeding experts contended it was impossible to supply the total protein needs of poultry and swine from vegetable sources. Formula feeds produced in those days had to include animal proteins. Soybean oil meal sold at lower prices than animal proteins. Those who talk in terms of price relationships give no recognition to the great advances made in soybean oil meal feeding since those relationships were established.

Today's \$81 ceiling on soybean oil meal does not recognize the advances made in feeding this commodity. It is based on Model T figures. It utilizes replacement figures of protein as compared with corn which were established when we still thought we had to feed animal proteins. There is no justification for an \$81 figure in light of today's knowledge. It should be removed entirely. If political expediency does not permit removal of ceilings, as seems probable, then certainly Governor Arnall and his price controllers should be realistic enough to admit they failed to keep pace with the parade. Then they have no alternative but to price soybean oil meal where it should be—based on today's comparable value.

WHERE WERE NEW ORLEANS HANDLERS?

Producers and handlers of soybeans from the Delta area met at New Orleans on May 5 to discuss with exporters and shippers the protests being received on the quality of soybeans exported out of that port. The folks who came from a distance were present. The folks located in New Orleans were conspicuous by their absence. Perhaps it was due to misunderstanding of the intent of the meeting. Perhaps it was due to failure to get the invitations to the right people. Perhaps it was deliberate refusal to attend.

There is always cause for wonderment when discussions of grades and quality are being carried on and the

people who handle many millions of bushels are not interested enough to attend a meeting. Are they not interested in a continuing market? Are they thinking only of today, neglecting tomorrow? Are they profiting by present standards, interested in seeing them continued so they may continue to profit? Without thought of the long pull?

The growers and country handlers were interested enough to come from northern Louisiana and Mississippi. They are interested in a growing and profitable market. They secured a hearing with Port of New Orleans authorities and management of the Public Elevator after resorting to a newspaper blast, and after staying over for an extra day in order to do so. No exporter or grain handler at New Orleans ever made his presence known. Whether or not it was deliberate, it was most unfortunate.

If the Port of New Orleans is interested in using those new facilities for continued handling of soybeans there should be an awakening on the part of the authorities down there to the fact that they cannot continue to ignore the producers of the soybean crop and expect their patronage. Other export ports lie too close—and can be used.

The meeting with Port Authorities resulted in an understanding on handling procedures which should bring results. If exporters are not interested in supplying the product which buyers want then perhaps the business will be transferred to others who can and will comply with the market needs—and the producer demands.

PROTESTS COME FROM JAPAN NOW

It has hit from another quarter this time. Japanese buyers have filed with the American Soybean Association a protest on the quality of soybeans received by them in several cargos during recent months. Full details are not yet available, but are being obtained.

It is only natural that buyers want the very best product at the cheapest possible price. Each of us buys in the same manner. But continual protests from every quarter must signify something.

To us it merely means that soybean buyers throughout the world are again becoming selective. Manchurian beans reaching world markets are normally sold on the basis of fair average quality of the crop. That fair average quality apparently has been somewhat better than the average quality of the soybeans reaching their shores from the United States. Hence, the protests.

It is strange that with our improved varieties, our mechanical production methods and our know-how we cannot compete, quality-wise, with hand production methods of the Old World. The answer probably lies in our grading standards. There has been no incentive for clean production. If clean beans came to market they were brought up to the maximum allowable foreign material content before export.

There is something radically wrong with a system that allows this. We need change. We need it now. Our export markets are fast getting away from us.

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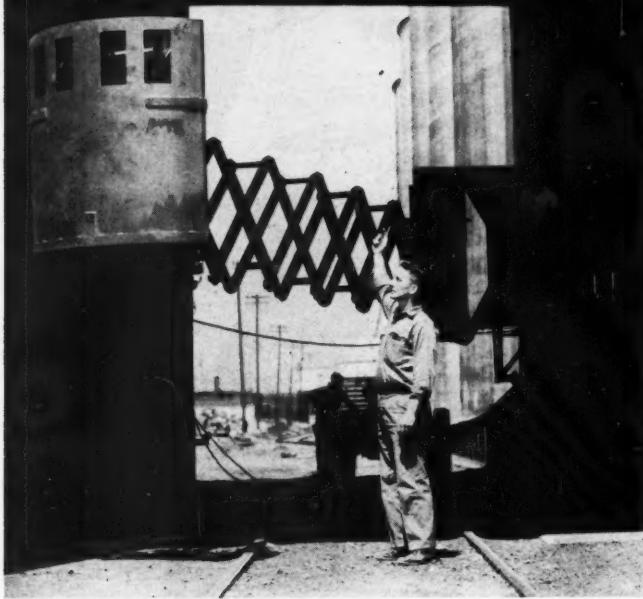
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This is the Stephens-Adamson Cinden car unloader showing shovel extended. Man in foreground is Ralph McDough, General Mills elevator supervisor at Rossford, Ohio. Operator is Herman "Ike" Kruse, elevator operator.

THE COVER PICTURE

New Ideas in General Mills Plant

General Mills chemical division began processing operations in its third big solvent extraction plant, located at Rossford, Ohio, May 9. The plant has a processing capacity of over 250 tons per day, and storage facilities for 1.5 million bushels. It is located on property adjoining the General Mills Larrowe division feed mill in Rossford, Ohio, just across the Maumee River from Toledo.

The firm's purpose in establishing the plant is two-fold: to broaden the chemical division's participation in the fats and oils industry; and to have available a reliable source of high quality soybean oil meal for use by the Larrowe division in manufacturing its established lines of Larro Feeds.

The storage elevator was completed last October in time to receive soybeans from the 1951 crop move-

ment. Jones-Hettelsater Construction Co., Kansas City, was the prime contractor and started work on the structure in April 1951.

The elevator, built strictly as a service facility for the processing plant, is of slip-form concrete construction embodying several new and revolutionary ideas of design and functional operation. Unlike the usual grain storage elevators of its size, it has no headhouse as such, no bin top or distributing floor, and no basement except for a small section under the car-unloading pit.

All soybeans are unloaded, weighed and put into storage by one man at a rate of better than one car per hour. This feat is accomplished by use of the Stephens-Adamson Cinden car unloader and a new idea in grain weighing called the Hardy Continuous Weighing Scale. This

scale has received full approval of the Toledo Board of Trade after full and exhaustive testing by that Board in conjunction with the National Weighmasters Association.

Departure in Storage

The storage bins themselves represent a decided departure from the conventional nests of individual round silos. They appear normal from the outside, but they are actually separated into only three separate storage areas. Two individual round silos totaling 150,000-bushel capacity are for use in conjunction with the grain drier. All the remaining storage space is in effect one large bin, since large regular openings in the interior walls allow the soybeans to flow freely from bin to bin. Thus only the exterior walls are truly load bearing. The interior walls merely tie the outside walls together and also furnish a measure of support for the roof. Total capacity is over 1.5 million bushels.

A Shanzer steam-heated grain drier has been installed at the ground level adjacent to the storage bins. Capacity is 750 bushels per hour.

For day-to-day operations it is possible to operate the entire elevator from the ground level. It is apparent that these novel construction and operating features not only have cut initial first costs but also will return continuing yearly savings due to lower maintenance and operation costs.

Construction work on the plant proper was started in August 1951 by Blaw-Knox chemical plants division, Pittsburgh. Although certain phases of construction work will continue for several weeks, the processing plant was officially started on May 9 when hexane was pumped into the extraction building for the first time.

The plant incorporates the latest engineering advances in the field of solvent extraction and is designed to give the finest commercially obtainable products with maximum efficiency and minimum operating effort. Although the Rotocel extractor has a rated capacity of 250 tons per day, it is anticipated that sufficient excess capacity has been engineered into the equipment so that an average rate of 12,000 bushels per day can be maintained.

As with the elevator, the same basic ideas of flow simplification, func-

tional design and construction, close integration of units and single level operations were carried out. The plant consists of six building units in a line with the processing buildings separated by fire walls. Service walkways on both sides of the buildings offer ready access between building units without the need of interconnecting doorways through the fire walls. All operations are controlled from the ground floor level of each building. Stairways, ladders and catwalks furnish ready access to elevated pieces of equipment for maintenance and observation purposes.

The Building Units

The six building units in line are: (1) boiler room; (2) service building; (3) meal storage and soybean run bins; (4) preparation and grinding building; (5) extraction building; and (6) refinery and oil warehouse building. The service building houses the offices, laboratory, store-room, maintenance shop, locker rooms and meeting room.

Additional yard units include the hexane storage tank, soybean oil storage tanks, fuel oil storage tank, cooling tower, and fire sprinkler system water storage tank with adjoining fire pump house.

The miscella distillation system is designed for high efficiency with low retention time and low temperatures under vacuum.

All oil produced, approximately



Interior wall in General Mills storage elevator at Rossford, Ohio, showing openings through which soybeans flow freely from bin to bin. Each oval shaped slot measures 48 by 98 by 80 feet high.

120,000 pounds per day, will be refined through the degumming step by use of standard Sharples equipment. The wet phosphatides removed during degumming will be processed into finished lecithin in equipment of General Mills' own design.

Oil shipments will be made principally in tankcars, a fleet of more than 40 being required at all times in continuous round trip service. Provisions are also being made to load customers' trucks. Lecithin will be shipped in 55-gallon lacquer-lined steel drums.

Extracted soybean flakes are de-solvated in a combination super-heated vapor desolvantizer-deodorizer and toasted in standard French atmospheric cookers. The properly toasted flakes are then carefully screened and ground into a uniform granular soybean oil meal which is practically dustless.

The finished meal is conveyed pneumatically to the meal storage bins. Most of the production will be conveyed from the storage bins

directly to the feed mill. Any excess production will be bulk loaded directly into boxcars by means of a Stephens-Adamson Swiveloader.

Precise laboratory control of all products will be maintained by a qualified chemist on duty 24 hours each day in order that only products of the highest quality and meeting rigid production specifications will be shipped.

Total personnel requirements for the entire plant, including elevator, office and laboratory, will not exceed 60 people.

Plant supervisors now in charge of the plant operations include: Glenn Martin, plant superintendent; Lou Brewster, office manager and grain buyer; Ray Wright, production supervisor; Dick Holgate, purchasing agent and storekeeper; and Wayne Wolf, plant chemist.

General Mills chemical division also operates plants at Belmond, Iowa, and Kankakee, Ill. Headquarters are in Minneapolis.

Sprays Show Promise for Soybeans

One experiment on the use of herbicides for the control of weeds and grass in soybeans was carried out at the Arkansas Agricultural Experiment Station, Fayetteville, in 1951.

Both pre-emergence and post-emergence applications were used. Water-soluble and oil-soluble dinitro materials at one and one-half and three-pound rates each provided excellent weed and grass control. But unfortunately they also prevented obtaining a good stand of beans. The oil-soluble dinitro was more toxic to soybeans, at comparable rates, than the water-soluble form.

It appears from these results that water-soluble dinitro might safely be used on soybeans, provided the rate of application did not exceed one pound per acre applied on a 10-inch band and a heavy rate of seeding was used. But experimental results are needed to verify this assumption, say the Arkansas Station workers.

Lion Experimental Oil No. 19-204 provided satisfactory weed and grass control without damaging the soybean stand.

The information is contained in Arkansas Report Series No. 31, Chemical Weed Control, by D. A. Hinckle, Francis Williams and Noah S. Peek.

Iowa Yield Contest

The Iowa Master Soybean Growers Contest will be held again this year with awards to local and district winners as well as to the winners of the state contest. Awards are for the highest yields on two acres, as in the past.

The Iowa Crop Improvement Association is sponsoring the contest in cooperation with local civic groups or organizations that will sponsor the local contest.

The John Sand trophy will go to the state champion. Second place winner will receive a silver plaque awarded by Iowa Soya Co., Redfield, Iowa, and third place will receive a

GROWERS

bronze plaque awarded by the Iowa cooperative soybean processors.

To qualify for an award, samples of the harvested beans must comply with all requirements for U. S. No. 2 soybeans with the exception of moisture content, test weight and foreign material.

Entries must be completed and mailed to the Iowa Crop Improvement Association, Ames, Iowa, on or before Aug. 31.

Soy's Lead in Returns

Soybeans led all other Nebraska

crops in returns per acre in 1951, the Nebraska Grain Improvement Association reports, as the table in the next column shows.

Value per harvested acre was \$59.40, as compared with \$41.85 for corn, which was second in total return.

Soybeans are grown in northeast and east central Nebraska and as an irrigated crop in central Nebraska.

The Association called attention to the possibility of planting soybeans as a substitute or replacement crop for corn and oats in areas where wet

weather had interfered with normal planting plans.

The active market demand, high prices as compared with other crops, and unusually wet season all influenced farmers in Nebraska to plant more soybeans. The 1951 acreage was 58,000 compared to 50,000 acres in 1950 and 20,000 in 1949.

Comparison of average acre yield, farm price, and acre income in various crops produced in Nebraska. 1951.

| Crop | Average yield in bushels per acre | Average farm price per bushel | Value per harvested acre |
|----------------|-----------------------------------|-------------------------------|--------------------------|
| Corn | 27.0 | \$1.55 | \$41.85 |
| Winter wheat | 14.5 | 2.15 | 31.20 |
| Oats | 28.0 | .85 | 23.80 |
| Barley | 22.0 | 1.15 | 25.30 |
| Grain sorghums | 13.0 | 1.34 | 17.40 |
| Soybeans | 22.0 | 2.70 | 59.40 |

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FEEDING

Use of Trace Minerals

Apparently neither corn-soybean-oil-meal or corn-tankage rations for weanling pigs on drylot are in need of added trace minerals under Missouri conditions, according to experiments at the Missouri College of Agriculture.

In these experiments trace minerals—iron, copper, cobalt, manganese and iodine—were added to both types of ration. They increased the rate of gain in only three of eight experiments. Gains were not considered large enough to be significant.

Broiler Production

Raising broilers? Bureau of Animal Industry has a good leaflet on the subject of broiler production that you may wish to check against your own practices.

According to BAI, whether you do an efficient job of feeding is likely to mean the difference between profit and loss.

Write for **BROILER PROFITS DEPEND ON EFFICIENT FEED CONVERSION**. Bureau of Animal Industry, Agricultural Research Administration, U. S. Department of Agriculture, Washington 25, D. C.

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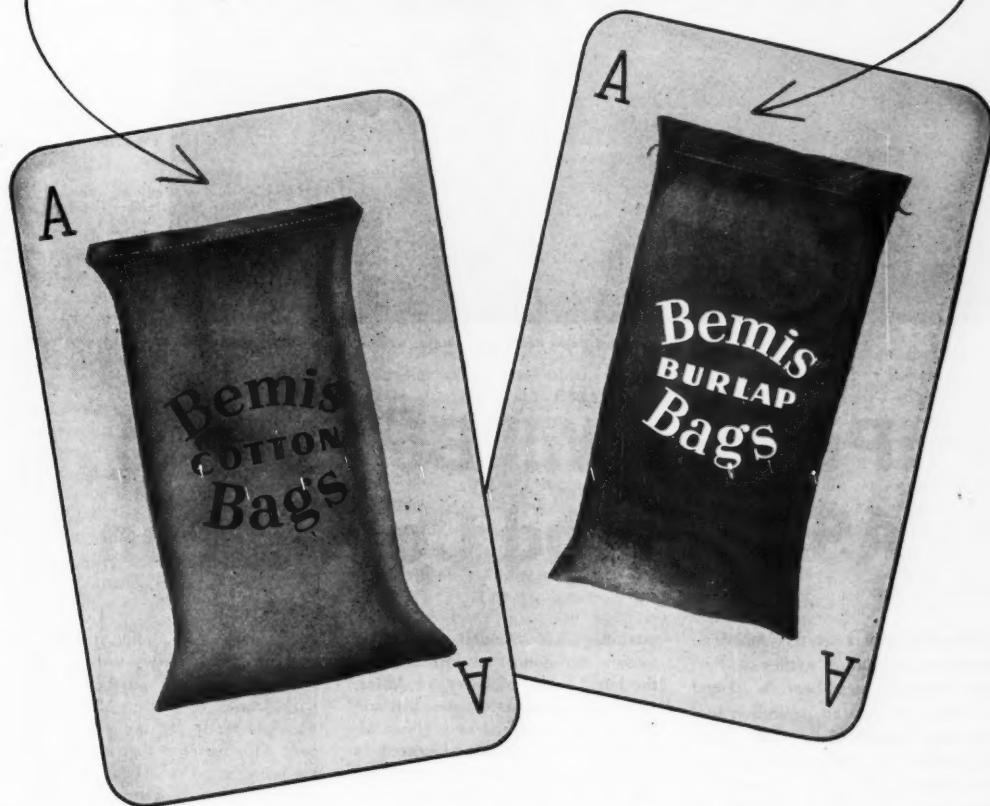
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Spacious Memorial Union Building at Purdue, where the convention will be held.

Purdue Will Be Host to ASA's 32nd Convention

When members of the American Soybean Association gather at Purdue University next Sept. 9, 10 and 11, they will find an institution that not only regards itself as the "service station" for Indiana farmers and all citizens of the state, whose questions they can answer, but also an institution famous for its typical Hoosier hospitality. Some years ago the late Irvin S. Cobb, humorist deluxe, called Indiana "the most typically American state." The friendly, democratic spirit of Purdue is helping perpetuate that Irvin Cobb saying, pronounced after a sojourn in the Hoosier state.

Also, Association members will visit again the state where the American Soybean Association was born. The first meeting of the Association was held in 1920 at "Soyland," the farm of Taylor Fouts, near Camden. Fouts, later a president of the Asso-

ciation; Ward Ostrander, then extension agronomist at Purdue; and the late Charles Meharry, of Attica, also a past Association president and long a moving spirit in soybean affairs of the Midwest, pioneered in this soybean session of 32 years ago, and in the seasons following.

Then, visiting members will have a chance to rub elbows with such men as Keller E. Beeson, of the Purdue agronomy extension staff, long a leader of the organization, having served as president for a year and secretary for several years; Dr. J. B. Peterson, head of the agronomy department; Dr. G. H. Cutler, soybean and wheat breeder of renown who retires this June after many years as assistant chief of agronomy; A. H. Probst, originator of some of the newer varieties of beans, including the Wabash and Perry; Dr. Ralph M. Caldwell, head of the department of botany and plant pathology at

Purdue, who has studied diseases of soybeans, and whose work in this field is now being pursued by Dr. Kirk Athow; Dr. Arthur M. Brunson, who has really put the pop in popcorn with varieties that are the best yet produced; Prof. Glenn M. Smith, who developed Purdue's Golden Cross Bantam sweet corn; and a host of others who have made their contributions to the new varieties and new knowledge on field crops that have come from Indiana during the years. The Association will join with Purdue staffers on the 11th in a big field day that comes as a climax of the Association program.

Named After John Purdue

For the information of members of the Association who have never been to Purdue, the institution is the state of Indiana's link in the great chain of Land Grant Colleges and Universities that have been such a potent

factor in agricultural advancement of this nation. Purdue has the name "Purdue" instead of that of the state because John Purdue and other citizens gave the money and land for the establishment of the University. When the Hoosier legislature of 1869 accepted the gift, the law said "the University should always bear the name and style of Purdue University."

From the meager beginning more than 76 years ago, the University has grown until today it holds rank as one of the leaders in this influential group of "Land Grant Colleges."

The original gift of 100 acres has grown to about 9,000 acres of land, including 1,245 acres in Minnesota. The three original buildings have increased to 84 on the campus and adjoining farms, and the value of the property has gone from \$150,000 to more than 25 million dollars, much of it having been received in the form of gifts.

Before the start of World War II, the student body of 64 of some 76 years ago had grown to 7,121 full-time students, the largest number in engineering in any institution of learning in America. It jumped during the GI influx to more than 15,000, but is now at about 13,000.

John Purdue's oft-repeated idea that "we should have a first-class high school" has far exceeded his fondest dreams. Today there are schools of agriculture, including forestry, aeronautics, civil engineering, and engineering mechanics, electrical engineering, chemical and metallurgical engineering, mechanical engineering, home economics, pharmacy, and science. Degrees are also offered in physical education, in trade and industrial education, in engineering-law in cooperation with Indiana University, in public service engineering, in agricultural engineering, in flight administration, and

Circle the dates on calendar.

| 1952 SEPTEMBER 1952 | | | | | | |
|---------------------|-----|-----|-----|------|-----|-----|
| SUN | MON | TUE | WED | THUR | FRI | SAT |
| 1 | 2 | 3 | 4 | 5 | 6 | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | | | | |

JUNE, 1952

THE CONVENTION IN 1952

Purdue Union, Sept. 9, 10, 11

Sept. 9, 10—Formal session in Purdue Union

Sept. 10, 9 a. m.—Annual business meeting, American Soybean Association.

Sept. 10, evening—Annual banquet.

Sept. 11—Field day at Purdue University Agricultural Farm.

in naval science and tactics. There is also a well-developed graduate school.

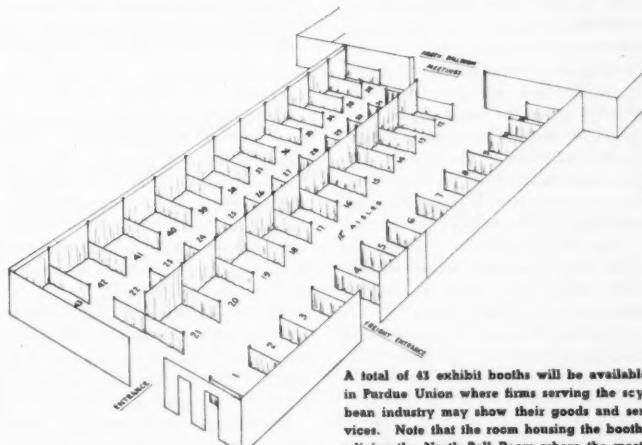
Research Work

Since the early 80's there has been some form of agricultural research underway on the campus, staff members seeking the answers to the countless questions on production and marketing asked by the 200,000 Indiana farmers. The Agricultural Experiment Station established in 1886 has been the fountain that has poured forth through the years a stream of new knowledge of value for the man on the land. To supplement the work done at Lafayette, there has gradually been developed a system of research on outlying fields and farms that has been adaptable to all the types of soil that prevail in the state. Today, actual research projects underway at the University and on these dozen tracts that now dot the

state number more than 250. A 1,000-acre tract of rough land in southern Indiana for beef production is the newest big project.

The results of the experiments have been translated into dollars and cents by the thousands and thousands of farmers who have taken the newly developed knowledge in the fields of agriculture and technology and put them to immediate use. In dissemination of this information, the department of agricultural extension, which was formally organized in 1911 under a new Indiana statute, has played a tremendously important role. The Extension Service, through its staff of specialists, both men and women, and county agents, has played a tremendously important role in the welfare and progress of the Hoosier state. Investment in research, both the pure and applied, has paid huge dividends.

Today, the farmers of the state



A total of 43 exhibit booths will be available in Purdue Union where firms serving the soybean industry may show their goods and services. Note that the room housing the booths adjoins the North Ball Room where the meetings are being held. For further information and reservations write or call: George McCulley, business manager, American Soybean Association, Hudson, Iowa.

recognize the Agricultural Experiment Station as the source of knowledge that affects their financial returns directly and the standard of living they are to have.

Contributions to the field of crop and livestock production have been numerous, with development of hybrid corn as one of the outstanding examples of research, and have played a direct part in building up the state's 1.1-billion-dollar agricultural income figure that it had attained in 1947.

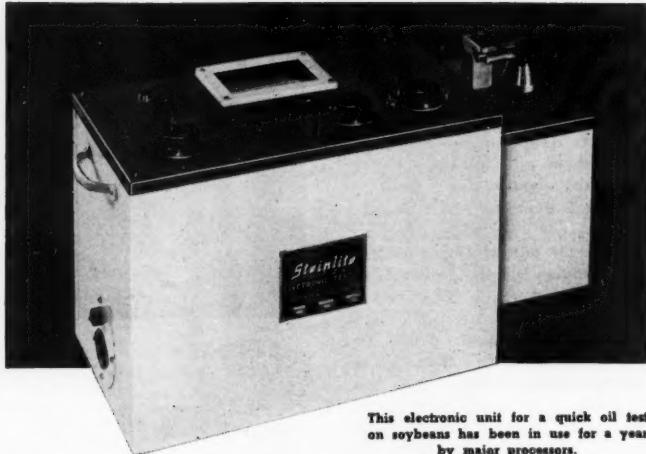
Engineering Station

The Engineering Experiment Station founded in 1917, and the Purdue Research Foundation which came into being in 1930, have been highly important in the industrial advancement of the state. From the laboratories on the campus have come many contributions of direct value to the industrial progress of the state. Better highways, better housing, surer electric service, better and faster ships and airplanes, better automobiles, are only a few of the things to which Purdue industrial research has contributed.

Purdue University today may be likened to the three legs of a tripod, one leg devoted to campus instruction, another to research, and a third to extension. This three-membered structure has been a tremendous force for good in the entire Hoosier state. The extension work in agriculture and home economics, and more recently the development of technical institutes for expansion of instruction in technical fields in various populous centers, have all added up to the fact that the University actually serves the needs of the people of the state. This is as it should be. An institution of the type of Purdue is dedicated to the public welfare as is no other type of institution. Its work has a direct bearing on the daily lives of all Indiana citizens, for whom education takes on new significance when they come in contact with the work of the University.

And the three days of contact that Association members will make with the University in September should be highly rewarding to all.

It is not too early to be making your hotel reservations for the convention. Make them direct with Purdue Union or with Fowler Hotel at Lafayette, Ind.



This electronic unit for a quick oil test on soybeans has been in use for a year by major processors.

Have Quick Oil Test for Soybeans

A method of determining the oil content of soybeans in fifteen minutes or less, as contrasted with the several hours required by the official method now in use, has been developed by grain technologists of the U. S. Department of Agriculture in cooperation with a commercial firm which is engaged in the development of electronic equipment.

The study on which these findings are based was made under authority of the Agricultural Marketing Act of 1946. Several firms already are using the new method, which Department technicians report as appearing to have possibilities for routine use in the inspection of soybeans.

The new method involves the use of a high-frequency oscillator for measuring the quantity of oil in a solvent. Soybean samples are ground in a special grinder-extractor with an oil solvent. The oil in the soybeans is extracted in this grinding. The solvent containing the oil is then filtered and placed in the cell of the electronic oscillator which measures its dielectric properties. The reading is converted to percent of oil by means of a conversion table developed from data obtained by analyzing a large number of samples of soybeans by the customary chemical method.

Results on a single sample of soybeans can be obtained in about 15 minutes, and if the determinations are made in quantity it is estimated that two analysts could make 20 to

30 determinations per hour. The method and technique are simple enough so that nontechnical personnel can perform the analysis accurately after obtaining brief instructions.

The present estimated cost of the special grinder-extractor and the high-frequency oscillator is approximately \$400 each. The estimated cost of the equipment required by this dielectric method when used at capacity is approximately one-half the estimated cost of the equipment required by the present official method for testing the same number of samples.

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NEW BAG BY FULTON

Fulton Bag & Cotton Mills, Atlanta, Ga., have just announced the development of a new rodent repellent-treated bag which they have named "Ratscat." This new secret formula can be used on either cotton goods or burlap.

Experiments with these new bags began in 1948, in cooperation with a large Louisiana rice farmers association. During the first year they used a few bags, which seemed satisfactory. Subsequent seasons they increased the use of these rodent repellent-treated bags and were highly pleased with the amount of grain they saved.

This year, the association's management advised Fulton they plan to use only Fulton's Ratscat bags.



Proudly Announces -

► Opening of a new, modern
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Providing Another -

► Market for Soybeans
► Source of General Mills
» 44% Protein Soybean Oil Meal
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GENERAL SALES OFFICE — MINNEAPOLIS, MINN.

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G. W. MARTIN — Plant Superintendent } WAL. 6611

Production of soybeans is expanding faster in the South than in the nation as a whole.



Weed control is the big problem in the South, and Southern agronomists are working on it. One approach is defoliation. At left, S-100 soybeans three days after application of defoliant. Center, Ogdens 10 days after defoliation. Right, non-defoliated Ogdens.

Soybeans in the South

By D. A. HINKLE

Head department of agronomy, Arkansas Agricultural Experiment Station. From a talk presented before the Fourth Annual Tri-State Soybean Conference of Processor and Agronomists at Purdue University.

THE SOYBEAN crop is rapidly "growing up" in the South. It is no longer the "little boy" among its elders—cotton, corn and tobacco. In some areas of the South, it is assuming a major role of importance.

It is the purpose of this discussion to present:

1—The place soybeans have in present Southern agriculture.

2—Some recent work on production problems such as row width, fertilization, weed control and defoliation, and

3—Finally a look ahead regarding future trends of this crop in our agricultural pattern in the South.

Past, Present Production

Soybeans are grown to some extent in most of the Southern states. Up to 1942 North Carolina was the leading soybean producing state in the South, and since that time Arkansas has been the leading state. It is estimated that Arkansas produced 12,444,000 bushels in 1951, an all

time record, Mississippi was second with 5,950,000 bushels and North Carolina third with 4,950,000 bushels. Unfavorable weather conditions cut the yield in Mississippi to 14.0 bushels per acre in 1951 while in Arkansas and North Carolina the state averages were 20.5 and 16.5 bushels per acre, respectively.

On a national basis soybean production has nearly tripled during the last 10-year period, being 107,197,000 bushels in 1941 and 299,279,000 bushels in 1950. The 1951 production was down to 280,512,000 bushels, principally because of the reduction in acreage planted to beans in the Cornbelt states due to the release of restriction on corn acreage.

Soybean production in the South has steadily increased, but at a more rapid rate than in the nation as a

whole. The relation of the Southern production to the national production is shown in Table 1.

Although the South produced only 13 percent of the nation's soybeans in 1951, the proportion produced by this area has been steadily increasing in recent years.

Of the 36,464,000 bushels produced in the South in 1951, Arkansas produced 34 percent, Mississippi 16 percent and North Carolina 14 percent or a total of 64 percent for these three states.

Production Problems

I shall briefly discuss a few of the major production problems encountered in the Southern area. In so doing I shall cite results of some recent research in Arkansas because I am more familiar with this work. I feel reasonably certain that these problems are common to much of the Southern area.

Row Width

A study of the effect of row width on two soybean varieties of economic importance in the South was conducted in 1950 and 1951 by Dr. P. E. Smith, in charge of soybean improvement and production research, at the

Table 1. Production of Soybeans in Eleven Southern States in Comparison to the National Production.

| Years | U. S. Production | Eleven Southern States* Production | |
|-------------|------------------|------------------------------------|---------|
| | | Bushels | Bushels |
| 1940-1949 | 178,567,000 | 12,357,000 | 6.9 |
| 1949 | 222,305,000 | 20,576,000 | 9.3 |
| 1950 | 299,279,000 | 34,557,000 | 11.6 |
| 1951 (Est.) | 280,512,000 | 36,464,000 | 13.0 |

*Arkansas, Mississippi, North Carolina, Tennessee, Virginia, Kentucky, Alabama, Louisiana, South Carolina, Oklahoma and Georgia.

Arkansas Agricultural Experiment Station.

These tests were conducted under entirely different soil conditions at three locations in the soybean growing areas of the state. The results obtained are given in Table 2.

The Delta Substation is located at Clarkdale, Ark., in a typical Delta area. The soil belongs to the Sharkey series, is very deep, heavy textured and fertile.

The Rice Branch Station is located at Stuttgart in the principal rice-growing area where soybeans are grown in a rotation with rice, lespedeza and oats. The soils belong to the Crowley series and are generally a silt loam texture and underlain at 12 to 24 inches with an impervious, sticky clay subsoil.

The Cotton Branch Station is located in the terrace area. In this area soybeans are grown in rotation with cotton and corn. The soils are from an old loess alluvium, are generally silt loams but with moderately compacted subsoils.

By referring to Table 2 it can be seen that yields of the Ogden variety of soybeans were increased 22 percent in 1950 and 46 percent in 1951 by the use of 10-inch row width as compared to the conventional 40-inch width; corresponding increases for 20-inch row width were 12 percent and 26 percent respectively. Similar results were obtained with the S-100 variety.

In discussing these results Dr. Smith says, "These increased yields above the conventional 40-inch row

were obtained only under conditions of complete weed and grass control by the use of hand labor. Until some practical and less costly method of weed and grass control can be developed, the use of narrow rows for the production of soybeans in Arkansas cannot be generally recommended."

This conclusion points to the need of a concentrated study on chemical and/or mechanical methods of weed and grass control in this crop.

Fertilization

When it comes to fertilizer response, the soybean seems to be related in some respects to its cousin the peanut, the so-called "unpredictable legume." I suppose there is no crop grown in the South today about which there is more confusion and less understanding regarding proper methods of fertilization than the peanut. While the soybean picture is somewhat less confused there is need of more research to bring the whole perspective into sharper focus.

Outside of the highly productive soils of the Delta and river bottom areas in which no fertilizer of any kind is presently being recommended by the state experiment stations, soybeans will generally respond to direct applications of mixed fertilizers containing potash and phosphorus.

A soybean chlorosis has been observed for several years in the rice-growing areas of Arkansas. It was first thought to be a pathological disease and was first observed in fields where soybeans followed rice in the rotation system. The most striking thing about it was that it

occurred most conspicuously in narrow bands in the fields. It was observed that these bands coincided with the location of the rice levees the preceding year. In recent years the chlorotic condition has gradually increased in importance until large acreages are involved and 75 percent of the plants in some fields showed chlorotic symptoms.

Dr. E. M. Cralley and R. L. Beachler, pathologist and agronomist, respectively, at the Arkansas Agricultural Experiment Station, undertook a study of this problem from a fertility standpoint. Fertilizer tests were conducted at five locations in the rice-growing area in 1950, and the results obtained are reported in Table 3. In test No. 4 the fertilizer was mixed with the soil before planting, and in all the other tests it was side-dressed when the beans were six to eight inches high.

The results obtained definitely



Use of narrow rows may result in considerably higher yields but the weed control problem makes its use impractical.



Table 2. Soybean Yields of Two Varieties When Planted in Three Different Row Widths. 1950 and 1951.

| Variety | Row Width | Rice Branch Station | | Delta Substation | | Cotton Branch Station | | Average for all locations | Yield of 40" Width = 100 |
|---------|-----------|---------------------|------|------------------|------|-----------------------|------|---------------------------|--------------------------|
| | | 1950 | 1951 | 1950 | 1951 | 1950 | 1951 | | |
| Ogden | In. | bu/A | bu/A | bu/A | bu/A | bu/A | bu/A | | 146 |
| | 10 | 36.7 | 30.1 | 31.5 | 28.2 | 34.1 | 29.1 | | |
| | 20 | 36.1 | 28.0 | 26.6 | 22.2 | 31.4 | 25.1 | | |
| S-100 | 40 | 33.8 | 23.9 | 22.2 | 15.9 | 28.0 | 19.9 | 100 | 100 |
| | 10 | 32.1 | 24.4 | 24.4 | 18.0 | 28.3 | 21.2 | | |
| | 20 | 29.3 | 20.3 | 21.3 | 7.8 | 25.3 | 14.0 | | |
| | 40 | 25.2 | 20.0 | 17.6 | 8.2 | 21.4 | 14.1 | 100 | 100 |

Table 3. Response of Soybeans to NPK and Trace Elements on Rice Soils in Arkansas. 1950.

| Treatments per acre* | Test Numbers | | | | | Relative Yield, No Fertilizer = 100 | |
|----------------------|--------------|------|------|------|------|-------------------------------------|-----|
| | 1 | 2 | 3 | 4 | 5 | | |
| No Fertilizer | 12.6 | 11.6 | 15.4 | 17.0 | 29.8 | 17.3 | 100 |
| K | 19.9 | 24.9 | 21.5 | 22.1 | 35.1 | 25.1 | 145 |
| PK | 23.5 | 30.6 | 25.8 | 32.1 | 40.9 | 30.5 | 176 |
| NPK | 23.8 | 30.6 | 30.4 | 31.6 | 38.5 | 30.6 | 177 |
| NPK + Trace Elements | 23.0 | 29.6 | 32.2 | 31.6 | 38.9 | 31.1 | 179 |

*K—168 pounds 0-0-60; P—500 pounds 0-20-0; N—150 pounds 16-0-0; Trace Elements—40 pounds Ee-Min-El.

pointed to potash deficiency as the cause of the chlorosis since in every case where potash was used alone or in combination with other elements the chlorotic condition was corrected. Good yield increases were obtained from potash alone, but still higher yields were obtained where both potash and phosphorus were supplied. No appreciable response was obtained from either nitrogen or trace elements.

Further tests in 1951 confirmed the results in 1950 and shed further light on the problem. It was found that phosphorus alone did not increase yields to any great extent and actually increased the chlorotic condition. Best results were obtained with both phosphorus and potash. As a result of these tests general recommendations for this area for soybeans now call for 400 pounds of a 0-12-12 fertilizer to be applied broadcast before planting or preferably in bands with fertilizer attachment on the planter.

A very interesting sidelight in the above study was discovered by chemical analysis of the soil in the narrow bands of the old rice levees and areas between the levees. It was found that the soils in both areas were low in both available phosphorus and potash, and low in organic matter. The soil from the old levees, however, had a higher pH value, 7.8 as compared to 7.1 in the areas in between levees. Rice soils were originally strongly acid but have become alkaline due to irrigation with well water high in lime. The more alkaline reaction of the soil on the old levee band may be explained by the tendency for calcium and other soluble salts to accumulate as the rice irrigation water evaporates through the exposed top and sides of the levee. It is conceivable that the higher alkalinity in these areas may have resulted in decreased plant absorption of potassium and phosphorus. Tissue tests supported this assumption.

Weed Control

One of the most important problems of soybean production in the South is that of weed control. In general farmers do not consider the economic returns from this crop justify the expense of hand labor for chopping out the weeds and grass. *The crop must be completely mech-*

anized in order to compete with cotton, rice or tobacco which provide higher monetary returns per acre.

Weeds not only make combining difficult and are a problem from this standpoint, but in addition create a problem in the rotation system. Many cotton farmers are reluctant to grow soybeans because such fields when grown in cotton the following year present a serious weed problem.

There is considerable interest in chemical weed control for soybeans. To date no completely satisfactory pre-emergence chemical has been found. Certain formulations of 4, 6 dinitro-ortho-secondary butylphenol have shown some promise but in a number of instances have proven too toxic to the beans. 3-Chloro-IPC appeared promising as a good pre-emergence herbicide for soybeans in last season's tests, but it will need further testing before recommendations can be made.

Virginia, North Carolina, Mississippi and Arkansas are working on weed control problems in soybeans, and there may be other states that are starting work.

Defoliation

Pre-harvest drying, or defoliation, of soybeans by means of chemical has attracted considerable interest in the South. Whether this production practice will ever have widespread acceptance among soybean growers in the South will depend upon research to demonstrate its advantages, if any.

One possible advantage might be in weedy fields to kill and dry up the weeds, thus facilitating combining. Another possible advantage might well be to advance the date of harvest to permit planting of a winter small grain crop. In tests at the Arkansas Experiment Station in 1951 the date of harvest of S-100 variety was advanced eight days, Ogden 18 days and Roanoke five days.

A Look Ahead

Considering all factors involved it would seem safe to predict that soybeans will continue to become more important in Southern agriculture. This prediction is based on the following factors:

1—Recent production trends point to larger acreage.

2—Greater degree of mechanization permits soybean production

costs to be lower than that for competing crops.

3—Probability of higher acre yields due to better varieties and better cultural methods.

4—Increased acreage in the Delta resulting from land clearings.

5—General increase of mechanization on Southern farms and the resulting reduction in horse and mule power releasing acreage now devoted to feed crops for soybean production.

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VOTATOR MANAGER



HEWITT M. McINTOSH

Hewitt M. McIntosh has been made Midwest district manager of the Votator division of the Girdler Corp., Louisville, Ky. He will make his headquarters in Chicago at 2001 Board of Trade Building.

McIntosh's territory is comprised of northern Illinois, Wisconsin, Minnesota, Nebraska, Iowa, North Dakota and South Dakota.

McIntosh joined Girdler as a sales representative in 1945.

The Votator division of the Girdler Corp. is an engineering and manufacturing organization. It designs, engineers and installs complete plants for the processing of many food and industrial products. Votator apparatus is employed in the production of virtually all U. S. margarine and vegetable shortening and in the production of quick frozen fruit juices and purees, starch for salad dressing, textile size, lubricating grease, printing ink and resins.

Bread Standards Allow 3% Soy Flour

The long fight of the American Soybean Association and others in the soybean industry for 3 percent soy flour in white bread was won with the announcement May 14 of new bread standards by Federal Security Administrator Oscar R. Ewing.

Features of the new standards:

1—Up to 3 percent of soy flour, corn flour, potato flour, rice flour, and various food starches are permitted for making slight changes in flavor, preventing rapid drying out of the bread, and as dusting flours.

2—Chemical "softeners," which have the effect of making bread appear fresh for days after baking, were excluded. Grounds for the action were: first, that the use of the softeners could deceive consumers as to the age of the bread, and second, that the proposed materials (polyoxyethylene monostearate and related compounds) have not been adequately tested for their safety as an ingredient of bread.

3—What has become known as the McCay loaf, which contains soy flour, wheat germ and nonfat dry milk solids, must carry special labeling. The standards rule in effect that the bread, which was developed by Prof. Clive McCay of Cornell University, is a distinct variety differing from ordinary white bread and that confusion of consumers would result if it were sold under a white bread label. The McCay formula bread has never been marketed as ordinary white bread.

Concerning the 3 percent limit on soy flour, Administrator Ewing stated: "Soy flour is limited to 3 percent because larger amounts would so change the composition, appearance and flavor of the bread that it would no longer be what the consumer expects when asking for white bread, whole wheat bread, etc. Such breads are expected to be made of flour that is milled from wheat.

"A baker . . . may use sufficient soy flour to make a distinctive kind of bread not covered by the standards if he labels it with a name that is not misleading and lists the ingredients on the label."

The standards have the force of law and will become effective Aug.

13, 90 days after their publication in the Federal Register.

Hearings began in 1941, but action was postponed during the war. Hearings were resumed in Nov. 1948. Representatives of the American Soybean Association appeared several times urging that usage of soy flour in white bread be permitted up to 3 percent, and that use of chemical softeners be prohibited.

Ewing said the hearings will be reopened if tests develop further information on the safety of the chemicals.

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WIN SMALLEY AWARDS

An innovation at the 43rd annual meeting of the American Oil Chemists' Society at Houston, Tex., was the awards luncheon, Apr. 30, planned principally for the winners in the Smalley check sample series.

For proficiency in the analysis of oilseed meal for oil and nitrogen, P. D. Cretien of the Texas Testing Laboratory, Dallas, Tex., and E. H. Tenent of Woodson-Tenent Laboratories, Memphis, Tenn., tied for the Smalley cup with a percentage of 99.990. Cretien won the cup last year, and Tenent won it two previous years. Both men were given certificates for first place in the determination of nitrogen.

Four other firsts were taken by Woodson-Tenent Laboratory men. They were: Determination of oil in oilseed meal, W. G. Wadlington, Decatur, Ill., score 100; analysis of soybeans, William Kesler, Little Rock, Ark., and W. D. Simpson, Des Moines, Iowa, both score 100; and analysis of vegetable oils, Simpson, score 99.725.

H. L. Craig, Procter & Gamble Co., Cincinnati, Ohio, was first in the determination of moisture in oilseed meal with a score of 100. A. G. Thompson, Southern Cotton Oil Co., Columbia, S. C., was second with a score of 99.907.

Edward R. Hahn, Hahn Laboratories, Columbia, S. C., was second on vegetable oils with a score of 99.445. Thomas B. Caldwell, Law & Co., Wilmington, N. C., was first in analysis of peanuts; and T. C. Law, Law & Co., Atlanta, Ga., was second in the

cottonseed series with a grade of 99.16.

The Smalley series is one of the most extensive in the world. Samples of vegetable oils, inedible oils, oilseed meal and oilseeds are distributed to commercial chemists, state chemists and industrial chemists. For instance, the oilseed meal series was sent to 117 chemists as far apart geographically as Buenos Aires and Sao Paulo in South America and Montreal and Vancouver in Canada.

Presentation was made by R. W.



EDWARD M. JAMES

Bates, chairman of the Smalley committee.

The Society announced officers for 1952-53 as follows:

President, E. M. James, technical advisor to the board of Lever Brothers Co., New York City; vice president, Procter Thomson, chemical division, Procter & Gamble Co., Cincinnati, Ohio; secretary, T. H. Hopper, head, analytical and physical division, Southern Regional Research Laboratory, New Orleans, La.; and treasurer, J. J. Vollertsen, retired chief of chemical research for Arrow & Co., Chicago, Ill.

A member of the society for 23 years and a holder of various offices in the organization, James received the official gavel presented to the society by former President H. B. Battie in 1924. The gavel is an Indian tomahawk dating back to 1680. The society has a membership of 2,000 prominent chemists.

James is also a member of the American Chemical Society, the American Institute of Chemical Engineers, and the Lever representative to the National Soybean Processors Association. He resides in Riverside, Conn.

Acreage up in 7 States; Down in 4

Much of the soybean growing area reports cooler weather and a more backward spring than normal. But on the whole—with some exceptions—conditions have been favorable for early planting if not for control of weeds and a quick germination of the seed. Moisture is sufficient in most places.

There was still considerable acreage to be planted June 1, and of course weather and soil conditions from now on out will determine the final acreage.

There are reports that a bigger cotton acreage has gone in in some areas than was expected earlier, and this could cut into soybean acres. If all of the contemplated acreage is planted to cotton, corn and small grain, there may not be so many acres shifted to soybeans at the last minute as in most recent years.

Soybean acreage appears to be down in the Cornbelt but up in the South and in northern "fringe" areas. Our correspondents report acreage up in Arkansas, Louisiana, Minnesota, Kansas, Mississippi, Missouri, Wisconsin and Ontario. They report acreage down in Illinois, Iowa, Ohio and Virginia.

Reports of Digest correspondents follow:

Alabama

H. I. West, Bay Minette, for southwest Alabama and northwest Florida (May 26): Planting date late due to dry weather in early May and wet weather the latter part. 20% of crop planted. Weather conditions very good at present. Rain has stopped. Looks favorable for next two weeks. Acreage 5% less than last year. Going into corn.

Arkansas

Paul C. Hughes, Farmers Soybean Corp., Blytheville, for north Mississippi County (May 26): Although the few very early beans were not planted this year, on whole planting has been about normal to a little late. 95%-plus of crop planted. After month of very unfavorable weather for all crops rain on 23rd seems to have turned the trick and all crops doing nicely now. Crop seems to be at least 10% larger than 1951 but there is an awful lot of cotton planted. More Dortschoy No. 2 and some new Dortschoy 67.

Jake Hartz Jr., Jacob Hartz Seed Co., Inc., Stuttgart, for southeastern (May 24): Planting date in cotton section about 10 days late, rice section about normal. Weather permitting, 75% of cotton area and 40% of rice area planted June 1. Early

May dry and hot. Heavy showers this week with all field work stopped. We will need three or four days of clear weather before we can get back in fields. Seeded conditions should be ideal for beans. Acreage 115-120% of 1951. Cotton farmers have not cut acreage on cotton as much as indicated April 1. However, premerge injury to cotton will call for more soybeans where poor stands of cotton. Principal varieties Ogdan 302, Volstate, with Dortschoy 31 setting in for late season.

L. M. Humphrey, R. L. Dortsch Seed Farms, Scott, for Little Rock area (May 24): Planting date about normal. 95% planted June 1. Weather very favorable. Soil, moisture and weather conditions all good. Acreage 105-110% of 1951. Beans replacing some cotton. Uncertain labor situation for cotton causing some reduction in acreage. Few or no S-100. Replaced by Dortschoy 67.

Illinois

C. G. Simcox, Assumption, for south central (May 24): Planting date normal. With favorable weather all will be in June 1. Poor weed killing weather. Cloudy for 10 days. Moisture good. Soil conditions fair. Acreage 90% of 1951. More Adams this year. Acreage 45% Hawkeye; 35% Lincoln; 20% Adams.

Albert Dimond, Lovington, for Moultrie County (May 24): Planting date week late. Fair weather will see most of crop in June 1. Spotted rains recently improved conditions. Most of area okay for moisture now. Still think acreage will be 10% down. Corn is just better money crop. Earlier varieties such as Hawkeye gain a little each year as farmers increasingly follow beans with wheat.

Gilbert F. Smith, Mahomet, for east central (May 24): Had 3½ inches rain in past seven days. No field work past week. Soils all plowed. Plenty of moisture and when they get in field seeded should be ideal. Do not believe will be any acreage change over all when crop is all planted. Some corn yet to plant.

J. E. Johnson, Champaign, for Champaign and adjoining counties (May 24): Planting slightly late due to continued rains and unusually cool temperatures. 85% of crop should be planted by June 1 assuming we have some delay from rains. May has five inches of rainfall to date. Soil wet. Need some dry weather. Expect acreage to be 5% lower than 1951. Trend to larger corn acreage. Hawkeye should lead in acreage, Lincoln second, with Adams gaining in favor.

Robert W. Weitzer, Carrollton, for west central (May 24): Planting date normal. 75% of crop planted. Last half of May drier than normal. Plenty of moisture below clods on top. Late spring has caused a lot of ground intended for corn to be planted to beans. Acreage 100% of 1951.

Indiana

Ersel Walley, Valley Agricultural Service, Fort Wayne, for northwestern Ohio

and northeast Indiana (May 26): General heavy rains last few days mean very late plantings for much of the crop at best. Not over 20% planted June 1. Soil has been in good condition except too wet. Acreage about same as 1951. If wet weather continues we may have less corn and more beans. Hawkeye more popular this year.

George K. Black, J. A. McCarty Seed Co., Evansville, for southwestern (May 23): Planting date normal. 40-50% planted June 1. Weather and soil conditions excellent.

Iowa

Willard Latham, Alexander, for Franklin County (May 22): Planting date week earlier than normal. 75% planted June 1. Weather excellent for putting in crops. Soil moisture excellent. Acreage 25% less than 1951. More corn planted. A few Blackhawk this year.

Kansas

H. L. Collins, agricultural statistician in charge, Topeka (May 23): Planting date about normal. 60% of crop estimated planted June 1. Weather cloudy, cool, damp. Soil, moisture and seedbed conditions good. Some areas too wet. Acreage 135% of 1951. Quite a bit of intended soybean acreage not planted last year. Barren heavy June rains this year's intended acreage will be planted.

Louisiana

W. M. Scott, Tallulah, for Louisiana Delta (May 23): Planting date normal. 90% of crop planted June 1. Weather extremely dry to wet at present. Wet weather delaying oat harvest, hence will delay bean planting following oats. Fair to good seedbed preparation. Moisture ample to excess at present. Acreage same as 1951 to increase of 10%. Same varieties as 1951, Ogdan, Volstate and Dortschoy. Less S-100.

Minnesota

Howard E. Grow, Farmer Seed & Nursery Co., Faribault (May 22): Planting date about average and considerably earlier than 1951. Weather cool with occasional rains. Moisture ample. Generally seedbed conditions good except where fields too wet. Indications are acreage about same to slight increase over 1951. Shift to Blackhawk since seed available. Less Monroe and Manchu.

R. E. Hodgson, Waseca, for south central (May 23): Planting date about normal. 80% of crop planted June 1. Prospects excellent. Plenty of soil moisture. Dry enough to plant except potholes. Enough rain to start seed. I estimate perhaps 2% increase in acreage. Blackhawk very widely used.

John W. Evans, Montevideo, for south central (May 26): Planting date ahead of normal past two years. 75% planted June 1. Subsoil moisture conditions ample. Some areas surface condition dry. Excess moisture in low areas all spring. Slow drying

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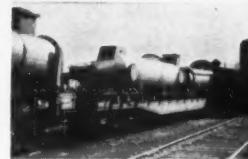
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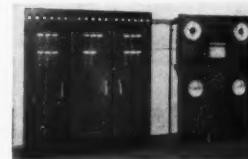


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World's Largest Suppliers of Extraction Equipment



Plants arrive on the construction site largely pre-assembled for speedy erection.



One man operates this compact control panel exerting closer coordination over the entire unit.

out. Many low ground fields still cannot be worked. Weather clear. Temperature past two weeks cool. Corn and beans slow emergence. Acreage increase over 1951 20%. Soft corn crop last two years affecting change. Increase in Blackhawks.

Mississippi

H. H. Huddleston, Lamont, for Bolivar and Washington Counties (May 24): Planting date normal. Planting about completed. We have at last gotten a good season for whole section and should allow for stand of soybeans everywhere. Soybeans up to stand by June 1 should provide rather full yield. Acreage must be near double 1951.

Missouri

Carver Brown, Laddonia, for northeast (May 27): Planting date five days early.

90% planted June 1. Weather favorable. Soil, moisture and seedbed conditions good. No change in acreage from 1951. More Wabash.

J. Ross Fleetwood, Columbia (May 23): Planting date about normal, ahead of last year. 75% of crop planted June 1. Weather on dry, cool side. Ground cloudy but generally ample moisture to bring up beans. Acreage 15-20% more than 1951 due to reduced oats acreage caused by wet weather early, and labor problems with cotton and corn. Increased acreage of Wabash.

O. H. Acom, Wardell, for southeast (May 23): Planting date about two weeks earlier than normal. 90% of crop planted June 1. Weather and soil conditions good. Acreage 15 to 20% increase over last year. Poor stands of cotton being planted to beans. More Ogdens than last year. Most beans

up to good stand and rotary hoed, and cultivated. Most fields clean of vegetation.

E. M. Poirot, Golden City, for southwest (May 25): Planting date 10 days earlier than normal. 95% of crop planted June 1. Weather and soil conditions excellent now, dry earlier. Acreage about same as 1951. More S-100.

New Jersey

John E. Baylor, assistant extension specialist in field crops, College of Agriculture, New Brunswick (May 26): No beans planted at this date. Cold and wet for this time of year. Acreage 10% up from 1951 and considerable interest in central Jersey. Decrease in acreage planted to potatoes and available equipment to handle beans (planters, cultivators, combines, etc.)

North Carolina

Irvin S. Morgan, Morgan Oil & Refining Co., Farmville, for eastern (May 24): Planting date normal, with 100% of crop planted June 1. Weather and soil conditions normal. Acreage about same as 1951.

North Dakota

C. J. Heltemes, agricultural statistician, Fargo (May 26): Planting date a little late, especially in Richland County. About 50% of crop planted June 1. In Richland County both topsoil and subsoil moisture plentiful. In Cass County topsoil moisture short and subsoil moisture getting short. If acreage of small grains is reduced by dry weather may be some increase in row crops, corn and soybeans. Dry topsoil in Cass County may cause more soybeans to be planted. Seeding of small grains practically stopped. A good rain could change whole outlook. Raining now and if this covers an extended area seeding of small grains and flax will be resumed. Capital variety of soybeans being planted.

Ohio

Kenneth E. Schultz, Delphos Grain & Soya Products Co., Delphos, for northwest (May 23): Planting date about normal. If weather permits, 100% will be in June 1. Ground saturated due to rain every few days. Acreage possibly 5% less than 1951 if corn ground can be planted. If corn planting is held up, acreage may equal last year.

Calvin Heilman, Kenton, for Hardin, Wyandot and Marion Counties (May 26): Planting 10 days late. 20% of crop planted June 1. Much corn not planted. Most soybeans planted after corn planting completed. Ground water supply adequate but not excessive. Weather has been rainy and too cool for corn and soybean planting. Acreage will be down 1 to 2% from 1951 unless corn planting is delayed further by rain. Lower bean prices tend to lower acreage but high labor requirements for corn prevents much shift in that direction. More Monroes, less Lincolns.

Lewis C. Saboe, department of agronomy, College of Agriculture, Columbus (May 26): Planting date one week late. 25 to 50% of crop planted. Too cool for soybeans. Soil, moisture and seedbed conditions satisfactory. Acreage about the same as 1951.

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Of course this record didn't just happen. In the past six years the railroads have spent over 6 billion dollars on improvements and new equipment of all kinds: 400,000 new and better freight cars — 14,000 new and better locomotives — improved tracks, signals, yards and shops.

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Case Self-Propelled Combines are built with 9, 12 (above) and 15-foot headers. Pull types available in 5, 6, 9, and 12-foot models. All with choice of spike or rub-bar cylinder. Six-foot Model "A" shown below.



A cracked bean is a wasted bean and trash just adds to the dockage. Thousands of growers, therefore, have found it to their advantage to harvest their soybeans with Case Combines. Buyers, too, have often expressed a preference for Case-threshed seed because they have learned to expect a whole, clean product from Case Combines. Whether with spike-tooth or rub-bar cylinder, a Case Combine is easy to adjust for gentle, yet thorough threshing. Case straw racks are extra long to assure complete separation of valuable beans. And Air-Lift Cleaning, found only in Case Combines, gets rid of trash while saving the seed. J. I. Case Co., Dept. F-75, Racine, Wis.

CASE



Virginia

Henry M. Taylor, Department of Agriculture, Richmond (May 26): Planting date normal. About 50% planted. A large percentage of soybeans planted after harvest of barley, oats and wheat. Weather and soil conditions generally favorable. Acreage slightly less than 1951 due to increase in corn acreage which many believe will be a more profitable crop.

Wisconsin

Geo. Briggs, Agronomy Building, Madison (May 26): Planting date about normal. Some soybeans up, some to be planted. Weather conditions good; moisture about average. Acreage same as 1951. Legumes lived through good. Corn borer checkup shows nothing serious. Prices fair and 1951 corn experience none too good. More Blackhawk. Good distribution Blackhawk and Monroe seed.

John P. Dries, Saukville, for southeastern (May 27): Planting date about normal. 90% planted June 1. Moisture very good. Temperatures could be higher. Acreage 60% of 1951. Earlier varieties have preference. We owe many thanks to our agricultural personnel for the fine experimental work they are doing in getting more adaptable varieties.

Hilmer B. Schauer, Hartford (May 25): Planting date normal. 90% of crop planted June 1. Weather cool, soil, moisture, seedbed conditions excellent. Increase in soybean acreage, mostly for hay, due to shortage of clover and alfalfa acreage and price of beans and soybean oil meal. More early varieties this year.

Ontario

R. H. Peck, River Canard, for southwestern (May 24): Planting date will be average, weather permitting. Crop may be 50% planted if we do not get too much wet weather by June 1. Has been dry and cool in most parts, making for good seedbed preparation but not good for getting first crop of weeds killed before planting. Possibly an acreage increase of 20%. An increase in newer growing areas and some increase due to favorable labor and price relationship between soybeans and most other crops. A few less Hawkeyes this year due to susceptibility to stem canker.

Charge Meal Ceilings Are Illegal

A group of soybean growers and processors has filed with the Office of Price Stabilization a joint protest charging OPS with having established a ceiling price on soybean oil meal which is illegal under the Defense Production Act of 1950.

The protest charges that the ceiling price on soybean oil meal, which is a primary ingredient in cattle and poultry feed, is illegal because it denies to producers of soybeans the legal minimum price, and denies to processors a fair and equitable processing margin specified by the Defense Production Act.

As a result of the OPS ceiling, the protest charges soybeans are selling at a price considerably below minimum ceiling price established under the Defense Production Act and the soybean processing industry is operating at a substantial loss. A number of the processing plants have closed down, and others plan to do so shortly.

The seriousness of these scheduled shutdowns was indicated by Robert G. Houghtlin, president of the National Soybean Processors Association of Chicago, Ill., when he said that if these indicated closings took place, the soybean processing industry would "be operating at roughly 60 percent of capacity."

In a separate statement issued in Chicago, Mr. Houghtlin said that his group, whose membership represents more than 80 percent of the regular soybean processing capacity of the U. S., is firmly behind the attack on OPS ceilings for soybean oil meal.

Prominent soybean farmers who signed the protest include David G. Wing of Mechanicsburg, Ohio, John

W. Evans of Montevideo, Minn., and Albert Dimond of Lovington, Ill., who are directors of the American Soybean Association, the national organization of soybean growers in the United States.

In addition, David G. Wing and John W. Evans are past presidents of the Association.

The protest points out that the ceiling price on soybean oil meal, set at \$81 per ton on Apr. 23 by Amendment 3, Supplementary Regulation 3 to the General Ceiling Price Regulation, places a particularly heavy burden on the small soybean processor who operates on a local basis.

The protest is believed to be the first instance in which the producers and processors of a major agricultural commodity have joined together to challenge the legality of an OPS ceiling price.

A number of the country's larger processing firms were shut down all or part of May, joining a large number of smaller plants that had been closed down all or part time for some months.

Among the big firms that closed plants in May were Swift & Co., Archer-Daniels-Midland Co., Cargill, Inc., A. E. Staley Manufacturing Co. and Borden Co. Some were reopened before the end of the month.

Adrian D. Joyce, board chairman of the Glidden Co., said Glidden is continuing to operate its large Indianapolis and Chicago plants "because Glidden is the only concern which makes from soybeans the pharmaceuticals and certain other by-products essential to the national health."

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JUNE, 1952



FOR EXPERT TECHNICAL ASSISTANCE — be sure to call the nearest Penola Office for any technical data or assistance you may need regarding your processing operations.

PUBLICATIONS

Lecithin in the Diet

Some medical investigators advise a low-fat diet to relieve hypercholesterolemia. But some California doctors have given their patients the opposite diet, one high in fat and cholesterol, plus soybean phospholipids, which are used in the food industry under the name of lecithin.

One hundred and twenty-two patients followed a high-fat diet that included internal organs with raw liver and raw brains daily, foods that are rich in cholesterol. Ninety-one of the patients took a teaspoon of soybean phospholipids with each meal. The others served as controls.

The blood cholesterol came down in 79 percent of the patients who took the "lecithin," but not in the patients who did not take lecithin.

This indicates that it may be possible to correct hypercholesterolemia while the patients eat a high-fat,

high-cholesterol diet, with the use of lecithin.

REDUCTION OF HYPERCHOLESTEROLEMIA BY HIGH-FAT DIET PLUS SOYBEAN PHOSPHOLIPIDS. By Francis M. Pottenger, Jr., M. D., and Bernard Krohn, M. D., Monrovia, Calif. American Journal of Digestive Diseases, Apr. 1952. Vol. 19, No. 4, pp. 107-109.

Lecithin and Vitamins

The vitamin-A-sparing effect of commercial soybean lecithins is due at least in part to the presence of carotenoids and is not a property of the lecithin molecule itself, investigations at Pennsylvania State College indicate.

SOYBEAN LECITHINS AND VITAMIN A UTILIZATION, by N. B. Guerrant and R. Q. Thompson, department of agricultural and biological chemistry, Pennsylvania State

College, State College, Pa. Journal of Nutrition, Mar. 10, 1952. Wistar Institute of Anatomy, Philadelphia, Pa.

B-12 and Soy Oil Meal

The addition of vitamin B-12 to the diet of mother rats containing soybean oil meal, alfalfa leaf meal and yellow corn prevented acute uremia in the newborn offspring. Without the B-12, from 40 to 58 percent of the young had acute uremia.

Young born to mothers maintained on a 72-percent-soybean-oil-meal ration had 35 to 45 percent post-weaning mortality. This could be prevented by the addition of vitamin B-12.

NUTRITIONAL VALUE OF PLANT MATERIALS. VII. DIETARY FACTORS AFFECTING PRE-WEANING AND POST-WEANING MORTALITY OF RATS. By M. O. Schultze, I. E. Liener and R. L. Glass, division of agricultural biochemistry, University of Minnesota, St. Paul, Minn. Journal of Nutrition, Feb. 11, 1952. Wistar Institute of Anatomy and Biology, Philadelphia, Pa.

FULTON QUALITY TEXTILE BAGS HAVE a DOUBLE LIFE

When you ship soybean meal in textile bags, either burlap or cotton, you are giving a plus value to your customers. Empty textile bags have a high salvage or reuse value that is welcomed by feed mills or farmers. Sturdy cotton and burlap bags are more resistant to tearing or snagging, stack and handle easier, and because of their neat, fresh appearance add prestige to your brand. Call or write your nearest Fulton Factory Branch for full information and prices.



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also manufactures EAGLE SAIL TWINE and MACHINE THREAD, the finest qualities for bag closing, and FULTEX TRIPLE STRENGTH TARPS OF 1000 USES.

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Minnesota Diseases

Brown stem rot of soybeans was found for the first time in Minnesota in Sept. 1951 at the Experiment Station Farm, St. Paul, and in Freeborn County.

Stem canker was also found for the first time in Waseca, Freeborn, Faribault and Blue Earth Counties in southern Minnesota.

DISEASES OF SOYBEANS NEW TO MINNESOTA. By M. F. Kernkamp and J. W. Gbler. The Plant Disease Reporter, Vol. 35, No. 11, Nov. 15, 1951.

Miscellaneous

SEGREGATION FOR YIELD, HEIGHT, AND MATURITY FOLLOWING A SOYBEAN CROSS. By Imam Mahmud and H. H. Kramer. Agronomy Journal, Dec. 1951. Vol. 43, pages 605-609.

CHEMICAL WEED CONTROL METHODS FOR COTTON. By J. K. Leasure, University of Tennessee Agricultural Experiment Station, Knoxville, Tenn. Circular No. 109, Feb. 1952.

BOOKS

Book on Phosphatides

Since the soybean is the largest commercial source of phosphatides, a new book on the phosphatides by Harold Wittcoff, head of the product development section of the General Mills Research Laboratory, Minneapolis, will be of considerable interest to many in the soybean industry. The book, the first really complete one on the subject in over 20 years, is published as an American Chemical Society Monograph.

The ability of phosphatides, which include the well-known lecithin, to function as protective colloids in both aqueous and fatty media, as wetting and emulsifying agents, as moisture absorbents, and as antioxidants contributes to a wide variety of industrial uses.

In food manufacture phosphatides are used in chocolate preparation, in bread, pastries and other baked goods, in margarine, candy, in shortenings and a variety of other prod-

ucts. Thus the largest quantities of phosphatides are consumed in the manufacture of edible products.

They may also be incorporated into products of the petroleum industry—as additives or detergents in motor oils, for instance—as well as into rubber, leather, protective coatings and printing inks. They are used in textile and plastic fabrication, in soaps and a variety of other products.

The book seems to do a most complete job of covering the whole subject, including the chemistry of phosphatides, analytical determination,

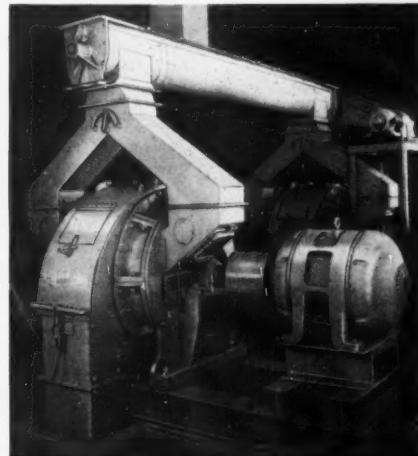
biochemistry and physiology, and industrial aspects.

Phosphatides from a wide range of both animal and vegetable sources including soybeans are described. The soybean is the largest commercial source of phosphatides though a small amount from cottonseed is also available commercially. At its best, the phosphatide content of soybeans compares well with eggs, formerly the source of commercial phosphatides.

THE PHOSPHATIDES. by Harold Wittcoff. 564 pages. \$10. Order from Soybean Digest, Hudson, Iowa.

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NEW PRODUCTS and SERVICES

MULTI-LOUVRE DRYER. A new 24-page book No. 2409 on Multi-Louvre dryers, published by Link-Belt Co., offers a great quantity of information on the drying, cooling and processing of bulk materials.



Fragile, heat-sensitive agricultural or food products can be dried rapidly. Large capacities can be handled; and the gentle action avoids degradation. Numerous installations have been made for cooling soybean and cottonseed flakes, flaxseed and copra.

For a copy of Book No. 2409 write Soybean Digest 6a, Hudson, Iowa.

ONE-WAY PLOW. The Dearborn One-Way Plow combines many of the advantages of both the plow and disc harrow. This versatile implement can be used for a wide variety of jobs including preparing seed beds, cutting and weeding irrigation ditches, building terraces, cutting stalks, discing down vegetable crops and leveling corn fields. The plow has 8 discs 22 inches in diameter made of shock resistant 9 gauge high carbon steel. Its rigid frame of 4 x 4 angle steel is built to take hard usage. The plow is positively controlled by the Ford Tractor Hydraulic Touch Control lever.

For further information write Soybean Digest 6d, Hudson, Iowa.



HEAD LOSS COMPUTER. A slide rule by which the friction of varying capacities in different sizes of pipe may be ascertained, with the viscosity of the liquid being shown, is offered to the industry.

With this slide rule, accurate pipe friction losses can be determined for all liquids. Especially useful in determining the size of pumps and the horsepower required to drive the pumps, in

vegetable oil refineries and other industries where the handling of viscous liquids or semi-solids is a production necessity.

For further information write Soybean Digest 6b, Hudson, Iowa.

SCALE CATALOG. A new 28-page Condensed Scale Catalog No. 11 has just been released by the Howe Scale Co.

It is a handy reference featuring the most complete line of modern scales for every industrial need. It includes a selection of a thousand popular standard Howe scales weighing from 1/64th of an ounce to 400 tons.

A page is also devoted to Howe hand trucks.

For a free copy of Condensed Scale Catalog No. 11, write Soybean Digest 6f, Hudson, Iowa.

AIRLOCK FEEDER. A new four-page bulletin is currently being offered by Prater Pulverizer Co., Chicago, illustrating and describing in detail the Prater Rotary Airlock Feeder.

In response to many inquiries, this bulletin has been prepared to answer the questions: "What is it?" . . . "What does it do?" . . . "Where is it used?"

It contains other essential information such as flow diagrams illustrating typical applications of the airlock, installation drawings giving dimensional data for layout purposes, and a capacity chart giving discharge rates for the various sizes at different speeds. There are also photographs that clearly show the internal construction of the Rotary Airlock, the clean rotor design and the flexible wipers.

For further information write Soybean Digest 6e, Hudson, Iowa.

DIRECTIONAL SPRAYERS. The "Yellow Devil Chemical Hoe," a cultivator-mounted directional sprayer for both pre-emergence and post-emergence weed control, is announced by Engine Part Manufacturing Co., Cleveland, Ohio.

Called the "Model 41 Directional Sprayer," the implement permits weeds in the row to be sprayed while weeds between rows are being cultivated. The row-shield shoes—sets of two per row—are attached to the cultivator. The shoes carry the chemical spray nozzles, and also keep the cultivator sweeps from "dirtling" the row while cultivating.

Cost of weed spraying is reduced, since the spray is accurately aimed at the plants from "short range," and no spray is wasted between rows.

In pre-emergence spraying one nozzle per row is mounted at the rear of the tractor.

The implement fits cultivators on all standard tractors.

For further information write Soybean Digest 6c, Hudson, Iowa.

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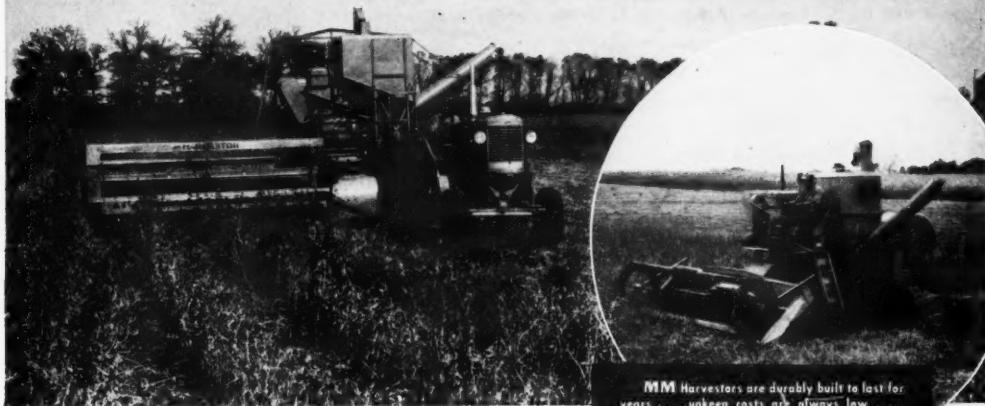
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Progressive farmers recognize MM HARVESTORS as the best soybean combines in the field . . . and they buy more of these economical, dependable combines than any other make. Here's why:

MM HARVESTORS get all the crop even under weediest conditions. There's no bunching or slugging of cut beans in the rasp bar cylinder. Easy rubbing action of the rasp bars thresh out the bean *gently*. Cracked beans and chewed or torn stalks are eliminated. Cleaning shoe eliminates fine chaff and leaves clean, uncracked beans in the bin.

Exclusive MM GRAIN PAN design prevents bunching of beans at sides or ends even on rolling land. MM CLEANING SHOE is automatically levelled for best cleaning position regardless of working tilt of the HARVESTOR. UNIT-MATIC POWER can be used for hydraulically lifting, lowering and varying height of cut.

Get beans faster, easier and really clean for the lowest cost harvesting per bushel, per acre, per dollar invested. Get an MM HARVESTOR. See your MM Sales and Service Dealer or write direct.



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GRITS and FLAKES...

FROM THE WORLD OF SOY

◆ P. C. McGrath, formerly sales manager of the St. Louis sales division of Bemis Bro. Bag Co., has been appointed assistant manager of the St. Louis bag factory and sales division. He joined the Bemis organization in 1913.

◆ F. H. Ludington, president of Chase Bag Co., and key personnel of the Chase Reidsville, N. C., branch, were guests of honor at a banquet sponsored recently by the city's Chamber of Commerce. It was a means of expressing appreciation for the firm's contribution to Reidsville's progress.

◆ Dr. Richard Henderson, former associate professor of microbiology and food technology at Syracuse University, has joined the Borden Co.'s special products division. He will serve as a technical service specialist with the division's research department.

◆ *Clyde H. Hendrix, vice president in charge of the Pillsbury Mills feed sales, has been appointed chairman of the Minnesota Development Council by Governor C. Elmer Anderson.*

◆ Walter C. Berger, who recently declined reelection as executive president of American Feed Manufacturers Association, has been named executive vice president and member of the board of directors of Shea Chemical Corp., Washington, D. C. He will also become vice president of the Hoosac Valley Lime Co., an associate corporation.

◆ W. E. Glennon has been elected executive president of the American Feed Manufacturers Association, succeeding Walter C. Berger. William T. Diamond was elected executive secretary-treasurer, succeeding Glennon. Diamond has been director of the agricultural division of the association since March 1948.

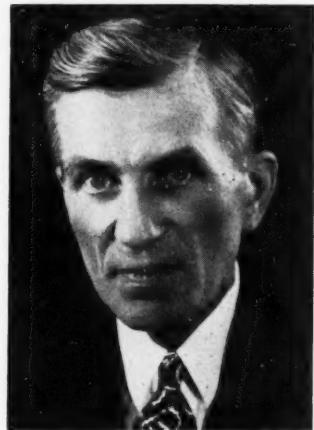
◆ Soybean production maps for 1951 for Indiana, Illinois and Ohio have been issued by the Nickel Plate Road, Cleveland, Ohio. Planted and harvested acres and bushels are shown by counties, also the location of the soybean processing plants and the Nickel Plate tracks.

◆ "Soybeans—Indiana's \$100-Million Crop" is an article by James P. Hoekzema in May 15 Indiana Farmers Guide.

◆ Midwest Burlap & Bag Co., Des Moines, Iowa, devoted its whole meeting here recently to the presentation of toxic treated bags to buyers and salesmen. Midwest's current advertising campaign in trade papers and magazines will promote to the fullest the need and advantages of toxic treated bags.

◆ The transfer of E. S. Elgin from Chase Bag Co.'s Philadelphia branch to its Chicago general sales office has been announced by company officials. He

STEWART PRESIDENT



FRANKLIN R. ST. LAWRENCE

Franklin R. St. Lawrence was elected president and a director of James Stewart Corp. of Chicago, Ill., according to an announcement from the 108-year-old grain handling and grain processing plant-erecting firm. He was associated with the company from 1924 until 1940, resigning as general manager at that time to organize his own firm in Omaha, Neb., under his own name.

Over 225 million bushels of grain storage has been constructed on this continent and abroad since the Stewart firm started specializing in the grain handling and processing plant field.

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Detailed, easy-to-understand blue prints for erection are furnished so that tanks may be put up with any kind of labor—or we will provide supervisor for your own men—or a complete Columbian erection crew. Foundation specifications and blue prints are furnished to enable your local concrete contractor to build foundation.

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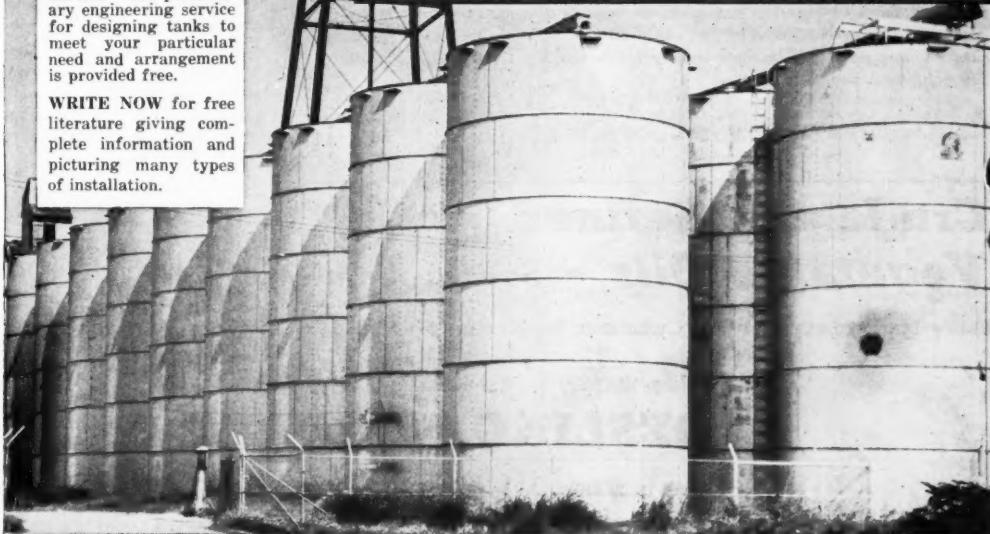
The low-cost overhead and maintenance assured by COLUMBIAN Bolted Steel Grain Storage Tanks is important because it means increased daily profits. But you get these money-saving advantages too; (1) Minimum initial investment—(2) Low-cost erection due to bolted sectional construction—(3) Last years on end; none have ever worn out; not one has been demolished by tornado or cyclone.

Fire-proof, weather-proof, rodent-proof. Never crack or crumble. Ideal for safe storage of all small grain—wheat, corn, oats, barley, soya beans, cotton seeds, peanuts, rice, coffee beans.

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COLUMBIAN BOLTED STEEL GRAIN STORAGE TANKS



will direct sales and promotion of crinkled paper, polyethylene and waterproof products including Sharkraft, the all-crinkled multiwall bag widely used for packaging agricultural and industrial products.

◆ Dr. Nolan B. Sommer was named supervisor of the new product development department, American Cyanamid Co. He replaces Dr. James R. Dudley, who recently joined the Carwin Co., North Haven, Conn.

◆ M. H. Keel has been appointed manager of a newly formed advertising department in Shell Chemical Corp. He will direct Shell Chemical's advertising, publications and sales promotion program for agricultural chemicals, fertilizers, solvents, industrial chemicals and plastics and resins.

◆ *C. J. Polstra was recently elected vice president of Burrows Equipment Co., Evanston, Ill. Dean Sweet was appointed to the position of sales manager.*

◆ Link-Belt Co. announces that William L. Hartley, formerly sales manager at the company's Philadelphia plant, has been transferred to executive sales headquarters at Chicago to specialize in the application of long-haulage belt conveyors and to assist on other major engineering projects.

◆ Fremont Fisher has become manager of the Chicago branch of the Howe Scale Co., Rutland, Vt. He was formerly Philadelphia branch manager. Charles J. Koch has become New Orleans branch manager.

◆ W. R. Pope and Ward J. Beard have been appointed district managers for Honeggers' & Co., Inc., Fairbury, Ill., feed manufacturing firm. Each will have charge of territories in Indiana.

◆ *At a special ballot vote May 12 members of the Chicago Board of Trade turned down a proposal by which the Exchange would have been closed on Saturdays during June, July and August.*

◆ Fourth short course sponsored by the American Oil Chemists Society will be held at Rutgers University, New Brunswick, N. J., July 6-11, with Foster D. Snell, Foster D. Snell, Inc., as chairman. Subject will be soaps and synthetic detergents. Enrollment will be limited to 200.

◆ Shell Chemical Corp. has completed arrangements to purchase the stock of Julius Hyman & Co., Denver, Colo., and has concluded an agreement with the Velsicol Corp., Chicago, for exclusive rights, world-wide, to aldrin and dieledrin, important agricultural insecticides, which have proven particularly effective against cotton insects and rootworms and wireworms.

◆ Fulton Bag & Cotton Mills announces the opening of its new plant at Crystal, Minn., to give its customers in the Northwest Central states the benefit of its products and service. The most modern textile bag manufacturing and printing equipment has been installed.

◆ *Link-Belt Co. announces that George A. Most, Jr., has been appointed district manager at Moline, Ill., to succeed Stuart J. Penick.*

sors, the Stewart firm was the first to use screw jacks to raise moving forms, were first to start the concrete bin walls from the foundation slab, were first to use an all-steel bin bottom in conjunction with the raising of bin walls off of the slab, and also were first to use the Sinks-Budd Dust Prevention System for venting elevator legs, garners and scales against devastating explosions.

— s b d —

AMSCO REPRESENTATIVE



WILLARD C. STUHLFAUT

Willard C. Stuhlfaut has been appointed sales representative in the Midwestern territory, it was announced by Max A. Williams, vice president in charge of sales of American Mineral Spirits Co., Chicago, Ill. Bill Stuhlfaut, who is a resident of Glen Ellyn, Ill., will cover a portion of the states of Illinois and Missouri and also Indiana and Kentucky for American Mineral Spirits Co.

His headquarters will be American Mineral Spirits Co.'s Chicago office.

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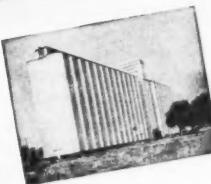
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MOISTURE TESTERS



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GARDEN CITY, KANSAS

February 19, 1952

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Gentlemen:

We have recently purchased seven of the new model 400 G Steinlite Moisture Testers for use in our grain elevators located in Southwest Kansas.

We handle large quantities of grain sorghum and wheat in our elevators. The majority of this grain is received during harvest time by trucks direct from the harvest field and is placed into storage in our elevators. It is very important that the moisture content of this grain be determined when the grain is received so it can be handled safely in storage. Also, it is necessary that we be equipped with machines which will give us fast and accurate readings.

We are very well pleased with the new model 400 G Steinlite Tester as it fits our requirements very well. The new fast reading thermometer in the new tester is a great improvement and speeds up the operation considerably. We will highly recommend the use of this new tester to the grain trade.

Yours very truly,

THE GARDEN CITY CO-OPERATIVE Eq. INC.
Lester L. Johnson
Manager

HLJ/m

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WASHINGTON DIGEST

MEAL CEILINGS. Office of Price Stabilization officials have indicated they would wait out the full 30-day time limit before filing a formal reply to the protest of soybean producer and processor groups against soybean oil meal price ceilings (See page 22).

For one thing, OPS officials look for oil meal prices to decline some by the time action on ceilings could be taken. They are going along with some trade estimates that bean meal prices from the 1952 crop will range within the area of \$74 to \$78 a ton. They also feel that the pressure on cottonseed meal in the Southwest will let up before long.

Another angle is that the rescinding of the rollback on edible oil prices under pressure from Congress reduces the pressure for relief on meal ceilings.

Officials also argue that taking ceilings off oil meals would be a first step in decontrolling virtually all feed prices, and lead to wiping out ceilings on meats, and eventually most other products.

On the broader front of continued price stabilization, the prospect is for Senate and House to extend price and wage controls for another eight to

nine months. But the law will be loosened up and weakened.

General opposition to controls is being weakened by Governor Arnall's strategy of dividing the opposition by suspending controls on some products. Extent of opposition in Congress is limited by temporary removal of price controls, while at the same time preserving the framework.

Another big factor in favor of a continued control law is the politics of an election year. Most of the congressmen would prefer complete decontrol, but they're afraid to take the leap this year.

COTTON. In the meantime, OPS is figuring on getting out a cottonseed meal tailored regulation about July 1. A price ceiling for linseed meal is well in the draft stage and is due out soon.

Officials think edible oil prices will be strengthened some by USDA's new cottonseed price support "package" deal for crushers. Even if not used much, government men figure the support will have a price bolstering effect. However, they look for crushers to use the meal support more than last year.

The USDA rate for oil and meal in the Southeast totals \$72.52 a ton. If and when meal drops to \$70 a ton and oil advances to 13c, the USDA offer would be \$2.12 a ton higher.

The farther cottonseed meal prices go down, the more crushers are apt to use the cottonseed price support package program, officials think. USDA is prepared to sell the meal and to hold the oil. This would tend to bolster oil prices.

Size of this year's cotton crop is still a question. But from the standpoint of the oil meal supply, the soybean crop will have a much greater total effect. An acre of soybeans produces about as much meal as two and one-half acres of cotton.

Total oil meal production this year is figured to be from 6 to 8 percent above last year. This is based on soybean and flaxseed crops in line with the intentions to plant report, and a cotton crop not much different from that of 1951.



By WAYNE DARROW
Washington Correspondent for
The Soybean Digest

CORN. Size of the corn and pig crops this year are big factors in the fall and winter prices of meals, and to some extent edible oils. A bumper corn crop and less than expected spring and fall pig crops could depress all feed prices, including meals.

Outlook for corn is good now. Some informed officials think the chances are for an unusually good crop this season, if weather doesn't turn bad. Long-time trend in corn production is up, and it's unusual for three below-average crops in a row.

Reports on size of the spring pig crop are conflicting, but a number of fairly careful studies indicate a decline in spring pigs of something like 8 to 10 percent below 1951.

CATTLE. The cattle industry is booming, insofar as numbers are concerned, and there is no immediate let-up in sight. It indicates that the longer range demand for oil meals and feeds for the cattle industry will be high.

We're heading for cattle numbers of around 100 million head by 1955. The all-time high of 88 million was reached last January 1.

The cattle industry is "tooling up" for the biggest beef and veal production of all time. Another big increase in total numbers is in prospect for this year, since beef and veal output is held down by unusually small slaughter of cows and calves. Then big-volume beef production will start. Big question is does the country now have the capacity to carry as many as 100 million head of cattle year to year without running out of grass?

Charles A. Burmeister, for many

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The above equipment is available for inspection at our mill, or we will furnish further details upon request.

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years. USDA livestock specialist and now a consultant to Farm Reports, Inc., has made a study which throws some light on the question. In brief:

U.S. pastures carried an average of 80.4 million animal grazing units in the 31 years, 1920-51. The number this year is 81.5 million.

Potential grazing capacity probably is 14 percent more animal grazing units than now, under favorable conditions—no bad drought, favorable prices, and continued improvement in pastures. Making allowance for some increase in sheep and a further decline in horses and mules, the country probably could carry as many as 103 million cattle.

This assumes the big increases in cattle will come in the South and the older humid areas, with little expansion in the Mountain and Great Plains states.

The South may be able to increase its grazing capacity by 25 percent over the 31-year average; Minnesota, Iowa and Missouri about 20 percent above the long-time average; and the West Coast about 15 percent more.

The Great Plains, Texas and Oklahoma are figured to be able to increase about 10 percent above average numbers, and the Mountain states 5 percent.

Dairy cattle are figured to go up from 23.4 million head to 26 million; beef cattle up from the present 64.6 million to about 74 million by 1956.

General conclusion of the study is: The nation under reasonably favorable conditions can take care of the 1952-56 expansion in cattle numbers and carry as many as 100 million head of cattle year to year. However, it would be a wise precaution to be looking to feed reserves in the future, especially carrying capacity, in case of a few bad years.

— s b d —

CCC SUES PILLSBURY

The Commodity Credit Corp. has filed a \$544,749 civil suit against Pillsbury Mills, Inc., in Minneapolis federal court.

The suit accused the Pillsbury firm of breach of contract in a government program set up in 1945 to promote production of soybean oil and meal.

The suit claimed the company failed to comply with terms of its contract at plants in Clinton and Centerville, Iowa.

The company, according to the suit, refused to make available an audit of its books related to the agreement.

Pillsbury stated in reply to the CCC suit, "This is one of several actions which have been brought by CCC because of a disagreement with the processors as to the meaning of the soybean processing contracts which were made in 1945. CCC claims that when the ceilings were increased on May 12, 1946, the processors were liable for the amount of the increased ceiling not only on processed meal which was on hand at the processing plants but also, in the case of firms which operated not only processing plants but feed plants, on all meal which was on hand at their feed plants.

"The processors claim that the liability should be restricted to the meal on hand at the processing plants which were actually involved in the contracts with CCC. In this case the Government has named in its complaint the entire quantity of soybean meal produced prior to May 12, 1946, leaving it to the defendant to

allege and prove the amount of meal which was "on hand" when the ceilings were lifted, so that the maximum liability, even if the Government should succeed on the principal issue, is no where near the amount claimed. Settlement has already been made for the meal at the processing plants, and the only issue is as to the remaining meal, claimed by CCC to be involved, the amount of which has not been fixed."

Market Street

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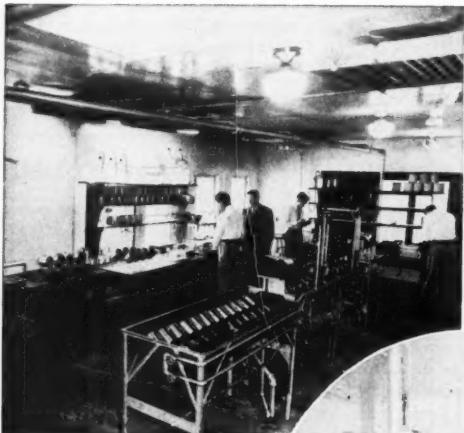
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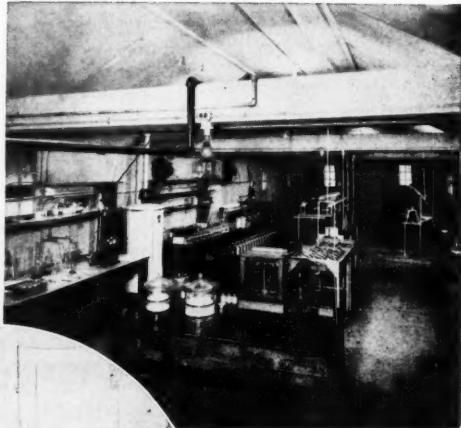
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IN THE MARKETS

25-Cent Rise in July Beans

May markets were featured by a close to 22-cent rise in May soybean futures at Chicago, and by stronger oil markets, which continued the upward trend begun in mid-April.

A tight delivery situation in May soybean futures contracts Chicago was probably the main reason for the upturn. On May 15, six days before the close out of the contract, there were only 388,000 bushels of soybeans in Chicago elevators and an open interest of about 9 million bushels to be satisfied. May soybeans pushed up the 10-cent limit on the final trading day to reach a new high for 1952.

Also affecting the oil market was some export interest in soybean oil.

A partial shutdown in processing facilities and the curtailment of meal production strengthened this market, and the price of soybean oil meal mixes edged higher to \$90 or more as production declined.

Refiners were active in the soybean oil market the latter part of the month and some interest was shown by manufacturers of the finished product and exporters.

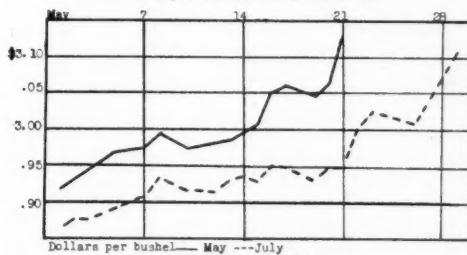
Large receipts of soybeans at times on the rise indicated that growers would sell for a price and that there are still relatively liberal supplies in the country. A larger disappearance of soybeans during April than had been expected and a more favorable processing conversion margin due to the rise in the price of soybean oil also helped to strengthen the market for soybeans.

Supplies of oilseed meals for the first six months of the season totaled 5.4 million tons compared with 4.9 million last season and 3.8 million for the five-year average, according to Production and Marketing Administration.

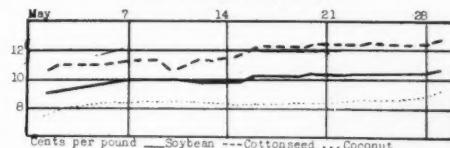
Soybean oil meal supplies at 3.1 million tons were 63,000 tons above last year due to reduced exports.

Prospects this spring indicate that the supply of edible fats and oils in 1952-53 may be about the same as in the current marketing year, as a somewhat lower production is offset by larger stocks at the beginning of the year.

FUTURES, CHICAGO NO. 2 SOYBEANS



CRUDE VEGETABLE OILS, TANKCARS



JUNE, 1952

MARIANNA SALES COMPANY

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Production of edible vegetable oils in the coming marketing year may be at a record or near-record level, but output of edible animal fats, especially lard, will fall below that of the current marketing year. The outlook for edible vegetable oils assumes that farmers' planting intentions for soybeans are realized, that the USDA production goal for cotton is attained and that weather conditions are average or above.

May No. 2 soybeans, Chicago, opened for the month at \$2.92, the low, and closed May 21 at \$3.13 7/8, the high. July beans opened at \$2.86, the low, and closed at \$3.10 3/4, the high.

Crude soybean oil, tankcars, f.o.b. Decatur, opened for the month at 9c, the low, and closed at 10 3/4c, the high.

MEMPHIS SOYBEAN OIL MEAL FUTURES CLOSE MAY 29*

(Contract 100 tons, Bulk Decatur.)
July 81.00b: Aug. 81.00b; Oct. 79.25b/80.25; Dec. flat 76.50; Jan. 75.30b/76.00; Mar. 75.00b/75.75.

CHICAGO SOYBEAN OIL MEAL FUTURES CLOSE MAY 29*

July 81.00b; Oct. 80.20b-81.00a; Dec. 77.10; Jan. 76.00b-76.50a; Mar. 75.75b-76.50a.

CHICAGO SOYBEAN OIL FUTURES CLOSE MAY 29*

July 10.85b-10.85a: Aug. 10.95b-11.00a; Sept. 11.05b-11.06a; Oct. 11.11b-11.12a; Nov. 11.16; Dec. 11.21b-11.24a; Jan. 11.25b-11.30a; Mar. 11.37.

NEW YORK SOYBEAN OIL FUTURES CLOSE MAY 29*

July 10.80b; Sept. 11.08; Oct. 11.15b; Dec. 11.25b; Mar. 11.35b.
a-asked. b-bid. *Reported by Chicago edition of Wall Street Journal.

FUTURES TRADING AND OPEN CONTRACTS IN SOYBEAN OIL MEAL ON MEMPHIS MERCHANTS EXCHANGE CLEARING ASSOCIATION (IN TONS)

| | Volume of Trading | Open Con- tracts | Volume of Trading | Open Con- tracts |
|---------|-------------------------|------------------------|-------------------------------|------------------------|
| Apr. 28 | 4,400 | 109,300 | May 15 | 5,100 |
| Apr. 29 | 5,000 | 106,600 | May 16 | 1,500 |
| Apr. 30 | 5,100 | 107,200 | May 17 | |
| May 1 | 4,900 | 105,100 | May 19 | 2,500 |
| May 2 | 1,400 | 104,700 | May 20 | 1,400 |
| May 3 | 500 | 104,100 | May 21 | 200 |
| May 4 | 2,300 | 102,800 | May 22 | 1,100 |
| May 5 | 1,500 | 103,300 | May 23 | 3,400 |
| May 6 | 4,600 | 101,500 | May 24 | 100 |
| May 7 | 1,500 | 101,600 | May 25 | 200 |
| May 8 | 2,550 | 101,600 | May 26 | 200 |
| May 9 | 5,300 | 100,300 | May 27 | 500 |
| May 10 | 3,700 | 98,200 | May 28 | 2,600 |
| May 12 | 8,500 | 97,000 | | |
| May 13 | 1,000 | 96,700 | | |
| May 14 | 4,700 | 96,900 | Total for 27 days reported | 73,300 |

• STOCKS. Production and Marketing Administration's commercial grain stock reports.

U. S. Soybeans in Store and Afloat at Domestic Markets

| | Apr. 29 | May 6 | May 13 | May 20 |
|--------------------------------|---------|-------|--------|--------|
| Atlantic Coast | 734 | 713 | 672 | 646 |
| Gulf Coast | 57 | 59 | 124 | 51 |
| Northwestern and Upper Lake | 267 | 139 | 114 | 72 |
| Lake | 1,132 | 1,122 | 823 | 796 |
| East Central | 1,113 | 966 | 870 | 804 |
| West Central | | | | |
| Southwestern & Western | 719 | 658 | 619 | 528 |
| Pacific Coast | 0 | 0 | 0 | 0 |
| Total current week | 4,022 | 3,657 | 3,222 | 2,897 |
| Total Year ago | 9,930 | 8,480 | 8,169 | 6,520 |

Soybean stocks in all positions on Apr. 1, 1952, totaled nearly 130 million bushels, according to reports assembled by the Bureau of Agricultural Economics. This is 13 million bushels less than on Apr. 1, 1951, but with that exception the highest Apr. 1 stocks of record.

Current totals include farm stocks of nearly 60 million bushels and interior mill, elevator and warehouse stocks of 22 million bushels, both as estimated by the Crop Reporting Board. Farm stocks are the highest of record for Apr. 1 while interior mill, elevator and warehouse stocks are the second highest, being exceeded on Apr. 1, 1945. Also included in the totals are 5.5 million bushels in terminals, as reported by the Production and Marketing Administration and nearly 43 million bushels at processing plants, as enumerated by the Bureau of the Census. Terminal stocks are the lowest for Apr. 1 since 1943 while processing plant stocks are less than either Apr. 1, 1950 or 1951.

Disappearance from an estimated supply of 285 million bushels on Oct. 1, 1951, is derived at 155 million bushels. Processed soybeans as reported by the Bureau of the Census are reported at 135,814,000 bushels for the period Oct. 1, 1951, to Apr. 1, 1952. This leaves a balance of over 19 million bushels to be accounted for by other uses, as seed, exports and feed.

STOCKS OF SOYBEANS APR. 1, 1952, WITH COMPARISONS

| Position | Apr. 1, 1950 | Apr. 1, 1951 | Jan. 1, 1952 | Apr. 1, 1952 |
|---|-----------------|-----------------|-----------------|-----------------|
| Thousand bushels | | | | |
| On Farms ^a | 45,804 | 48,085 | 103,380 | 59,603 |
| Terminals ^b | 10,241 | 12,513 | 9,760 | 5,457 |
| Processing Plants ^c | 47,991 | 62,798 | 61,848 | 42,708 |
| Int. Mills, Elev. & Whses. ^c | 17,517 | 19,594 | 44,390 | 21,857 |
| Total | 121,553 | 142,990 | 219,378 | 129,625 |

^a Reported by Crop Reporting Board. ^b Reported by Grain Branch, P.M.A. ^c Reported by Bureau of the Census. ^d All off-farm stocks not otherwise designated.

**OFF-FARM^d STOCKS OF SOYBEANS APR. 1, 1952
WITH COMPARISONS**

| State | Apr. 1, Jan. 1, 1951 | Apr. 1, 1952 | State | Apr. 1, Jan. 1, 1951 | Apr. 1, 1952 | | |
|------------------|----------------------|--------------|--------|----------------------|--------------|---------|--------|
| Thousand Bushels | | | | | | | |
| Ohio | 10,046 | 12,533 | 9,758 | Kans. | 1,501 | 2,339 | 1,373 |
| Ind. | 8,069 | 8,296 | 4,212 | N. C. | 944 | 1,902 | 1,373 |
| Ill. | 36,849 | 40,429 | 22,172 | Ky. | 2,319 | 2,125 | 1,225 |
| Minn. | 4,452 | 5,641 | 3,335 | Ark. | 2,108 | 4,550 | 2,063 |
| Iowa | 14,854 | 15,419 | 11,389 | All other | 9,046 | 14,416 | 8,978 |
| Mo. | 4,719 | 5,348 | 5,517 | U.S. | 94,905 | 115,998 | 70,022 |

^e Includes stocks at processing plants as enumerated by the Bureau of the Census; commercial stocks at terminals reported by the Grain Branch, P.M.A.; and stocks in interior mills, elevators and warehouses by the Crop Reporting Board. ^f Included in all other to avoid disclosing individual operations.

FACTORY USE SOYBEAN OIL. Factory production of crude soybean oil totaled 218,381,000 lbs. in March, compared with 222,247,000 lbs. in February, reports Bureau of the Census. Factory production of the refined oil was 183,469,000 lbs. in March and 180,626,000 lbs. in February.

Factory consumption of crude soybean oil in March was 196,244,000 lbs. compared with 197,365,000 lbs. in February. Consumption of refined soybean oil was 165,193,000 lbs. in March; 168,379,000 lbs. in February.

Factory and warehouse stocks of crude soybean oil totaled 245,027,000 lbs. Mar. 31; 240,510,000 lbs. Feb. 29. Stocks of re-

fined soybean oil totaled 109,839,000 lbs. Mar. 31; 103,120,000 lbs. Feb. 29.

Usage of crude soybean oil in March: soap 76,000 lbs.; paint and varnish 403,000 lbs.; other inedible products 1,697,000 lbs.

Usage of refined soybean oil in March: shortening 49,098,000 lbs.; margarine 5,869,000 lbs.; other edible uses 9,083,000 lbs.; paint and varnish 5,443,000 lbs.; lubricants and greases 27,000 lbs.; linoleum and oilcloth 1,577,000 lbs.; other inedible products 11,395,000 lbs.

Usage of hydrogenated edible soybean oil in March: shortening 16,256,000 lbs.; margarine 41,857,000 lbs.; other edible uses 990,000 lbs.

● SOYBEAN GLUE. Consumption of soybean glue by the softwood plywood industry in February totaled 4,488,000 lbs. compared with 4,520,000 lbs. in January.

Consumption of phenolic resin glue was 2,247,000 lbs. and of all glues was 7,680,000 lbs. in February.

Feb. 29 stocks of soybean glue were 2,905,000 lbs. compared with 2,914,000 lbs. Jan. 31.

Consumption of soybean glue in March totaled 4,756,000 lbs.; of phenolic resins, 2,335,000 lbs.; and of all glues 8,075,000 lbs. Mar. 31 stocks of soybean glue were 3,670,000 lbs.

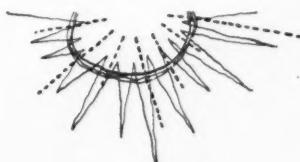
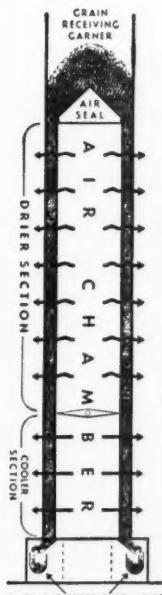
● EXPORTS. U. S. exports of soybeans and soybean oil for March, as reported by the Office of Foreign Agricultural Relations:

| | |
|---|-----------------|
| Soybeans | 761,908 bu. |
| Soybean oil, crude | 23,017,564 lbs. |
| Soybean oil, refined but not further processed | 1,368,328 lbs. |
| Soybean oil, refined, deodorized and hydrogenated | 370,118 lbs. |

Converted to a soybean equivalent basis, the exports for March amounted to 3,303,863 bushels.

The grain inspection department of the New Orleans Board of Trade reports 691,000 bushels cleared for export in April compared with 19,593,000 bushels in April 1951. Of this bushelage, 44,000 were for Norway, the balance for Japan.

A total of 19,593,000 bushels have been cleared through the Port of New Orleans since July 1, 1951.



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for outdoor or indoor use, in sizes to handle from 150 to 1000 bushels per hour.

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for outdoor use, dries and cools up to 300 bushels per hour.

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American Soybean Association
Hudson, Iowa

● **PROCESSING OPERATIONS.** Reported by Bureau of Census, for February, March.

RAW MATERIALS AT OIL MILLS: RECEIPTS, CRUSHINGS AND STOCKS MARCH 1952-FEBRUARY 1952

(Tons of 2,000 pounds)

| Raw materials | Receipts at mills | | | | | Oil mill stocks end of month |
|---------------|-------------------|--------------|---------------|--------------|------------------|---------------------------------|
| | March 1952 | Feb. 1952 | March 1952 | Feb. 1952 | Mar. 31, 1952 | |
| Soybeans | 444,554 | 629,553 | 646,204 | 673,695 | 1,281,248 | *1,482,894 |
| Cottonseed | 55,150 | *163,359 | 432,904 | *545,314 | 801,752 | 1,179,504 |
| Peanuts | | | | | | |
| Shelled | 5,442 | 6,557 | 5,506 | 6,748 | 3,865 | 3,929 |
| Unshelled | 10,098 | 11,795 | 14,676 | 10,984 | 11,947 | 16,525 |
| Corn-germs | 25,340 | 25,371 | 25,187 | 25,476 | 1,701 | 1,543 |
| Copra | 22,088 | 28,186 | 26,367 | 30,476 | 20,923 | 25,202 |
| Flaxseed | 30,207 | 38,740 | 61,480 | 62,817 | 124,036 | 155,309 |
| Tung Nuts | (†) | 7,491 | 5,616 | 10,097 | (†) | 3,479 |
| Castor beans | 5,759 | 8,733 | 7,145 | 6,843 | 11,094 | 12,480 |
| Olives | 2,709 | 3,581 | 3,112 | 4,839 | (†) | (†) |
| Other | 6,831 | 4,897 | 4,111 | 5,118 | 2,470 | 2,290 |

* Revised. (†) Included in "Other" to avoid disclosure of individual operations.

PRIMARY PRODUCTS EXCEPT CRUDE OIL, AT CRUDE OIL MILL LOCATIONS: PRODUCTION, SHIPMENTS AND TRANSFERS AND STOCKS, MARCH 1952-FEBRUARY 1952

| Products | Shipments and transfers | | | | | End of month stocks |
|----------------------|-------------------------|---------------|--------------|---------------|--------------|---------------------|
| | Production | March 1952 | Feb. 1952 | March 1952 | Feb. 1952 | |
| SOYBEAN: | | | | | | |
| Cake and meal | 494,712 | *525,048 | 487,426 | *511,036 | 53,988 | *46,702 |
| Lees | 1,720,120 | 1,691,545 | 1,558,275 | 1,500,015 | 3,224,219 | 3,062,374 |
| Edible soy flour | | | | | | |
| full fat | (**) | 597 | 480 | 502 | (**) | 370 |
| Edible soy flour | | | | | | |
| other† | 8,771 | 8,722 | 8,907 | 8,893 | 1,194 | 1,330 |
| Industrial soy flour | 2,826 | 2,535 | 2,442 | (**) | 1,553 | (**) |

* Revised. ** Not shown to avoid disclosure of individual operations.

† Unit of measure in tons. ‡ Unit of measure in pounds.

SOYBEANS: RECEIPTS, CRUSHINGS AND STOCKS AT OIL MILLS, BY STATES, MARCH 1952-FEBRUARY 1952

(Tons of 2,000 pounds)

| State | Receipts at mills | | | | | Crushed or used Stocks at mills |
|-------------|-------------------|--------------|---------------|--------------|------------------|------------------------------------|
| | March 1952 | Feb. 1952 | March 1952 | Feb. 1952 | Mar. 31, 1952 | |
| U. S. | 444,554 | *629,553 | 646,204 | 673,695 | 1,281,248 | *1,482,894 |
| Arkansas | (†) | (†) | 13,763 | 23,206 | 54,417 | 68,373 |
| Illinois | 190,777 | 258,451 | 271,787 | 265,669 | 410,215 | 491,125 |
| Indiana | 38,262 | 62,841 | 54,331 | 53,504 | 75,200 | 91,289 |
| Iowa | 93,598 | 127,674 | 91,633 | 108,545 | 175,638 | 173,673 |
| Kansas | 8,895 | 13,824 | 16,699 | 15,238 | 19,881 | 27,685 |
| Kentucky | 5,751 | 10,500 | 17,216 | 16,562 | 34,690 | 46,155 |
| Minnesota | 24,873 | 29,732 | 28,750 | 27,724 | 20,259 | 24,136 |
| Mississippi | (†) | (†) | 10,912 | 7,598 | 16,812 | (†) |
| Missouri | 3,459 | 6,173 | 15,367 | 18,801 | 90,957 | 102,866 |
| Nebraska | (†) | (†) | 5,417 | 4,382 | (†) | (†) |
| N. Carolina | (†) | 1,132 | 8,063 | 8,060 | (†) | 42,323 |
| Ohio | 66,356 | 81,761 | 66,453 | 71,657 | 210,133 | 210,270 |
| Oklahoma | 1,642 | *2,578 | 4,056 | *5,788 | 1,625 | *4,039 |
| Texas | | | | | (†) | |
| All other | 11,034 | *35,124 | 41,752 | 48,881 | 171,421 | *201,020 |

* Revised. † Receipts exceeded by shipments of beans previously received and held in the State. U. S. receipts are on net basis, excluding transfers between mills. ‡ Included in "All other" to avoid disclosure of individual operations.

SOYBEAN PRODUCTS: PRODUCTION AND STOCKS AT OIL MILL LOCATIONS, BY STATES, MARCH 1952-FEBRUARY 1952

| State | Crude oil (thousand pounds) | | | | | Cake and meal (tons) |
|---------------|-----------------------------|------------------|--------------|------------------|--------------|----------------------|
| | Production | Stocks | Production | Stocks | | |
| March 1952 | Feb. 1952 | Mar. 31, 1952 | Feb. 1952 | Mar. 31, 1952 | Feb. 1952 | Mar. 31, 1952 |
| U. S. | 218,381 | 222,247 | 109,645 | 110,673 | 494,712 | *525,048 |
| Arkansas | 4,288 | 6,930 | 2,383 | 2,649 | 10,607 | 17,997 |
| Illinois | 97,521 | 87,898 | 42,586 | 41,841 | 198,347 | 199,521 |
| Indiana | 18,874 | 18,497 | 4,669 | 3,671 | 42,798 | 42,510 |
| Iowa | 29,396 | 33,105 | 23,456 | 24,891 | 73,714 | 85,869 |
| Kansas | 5,116 | 4,810 | 2,817 | 3,484 | 13,225 | 12,013 |
| Kentucky | 6,092 | 5,970 | 556 | 915 | 13,232 | 12,815 |
| Minnesota | 8,686 | 8,211 | 2,498 | 3,798 | 21,684 | 21,806 |
| Mississippi | 3,416 | 2,410 | 2,108 | 2,647 | 8,525 | 6,151 |
| Missouri | 4,934 | 5,765 | 2,027 | 1,721 | 12,000 | 15,204 |
| Nebraska | 1,822 | 2,115 | 41 | 43 | 3,403 | 3,787 |
| N. Car. | 2,215 | 2,714 | 2,548 | 2,590 | 6,401 | 7,849 |
| Ohio | 22,461 | 28,185 | 8,970 | 7,766 | 52,959 | 57,055 |
| Oklahoma | 1,185 | 1,755 | 229 | 678 | 3,244 | *4,326 |
| Texas | | | | | (†) | (†) |
| All other | 12,705 | 14,665 | 14,095 | 13,584 | 33,417 | 38,249 |

* Revised. † Included in "All other" to avoid disclosure of individual operations.

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SKELLYSOLVE B. Making edible oils and meals from soybeans, corn germs, flaxseed, peanuts, cottonseed and the like. Closed cup flash point about -20°F.

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